

*We perform Best
under Pressure!*



HYDRAULIC COMPONENTS & SOLUTION FOR MOBILE APPLICATIONS



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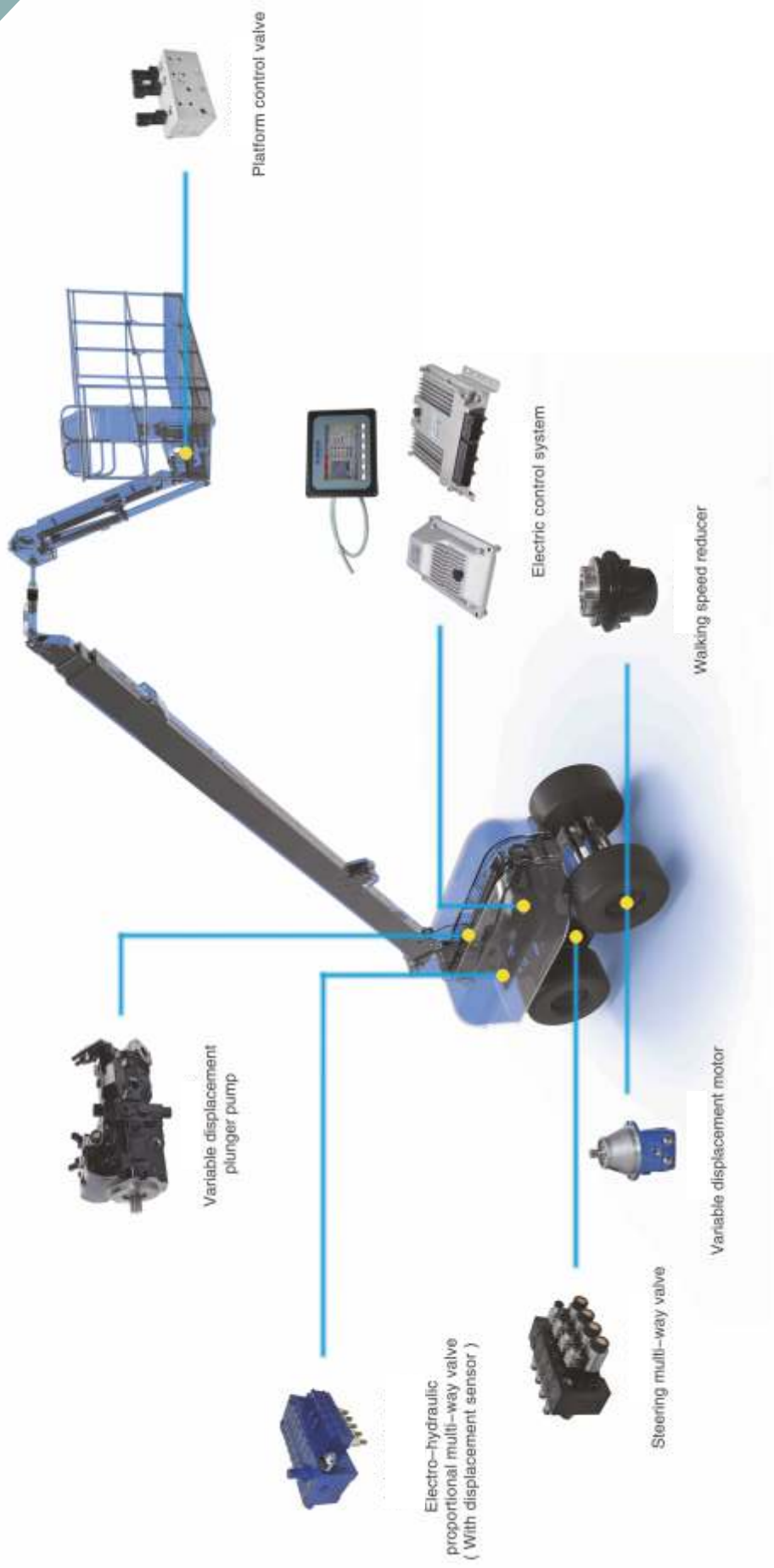


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Aerial work platform electro-hydraulic proportional control system



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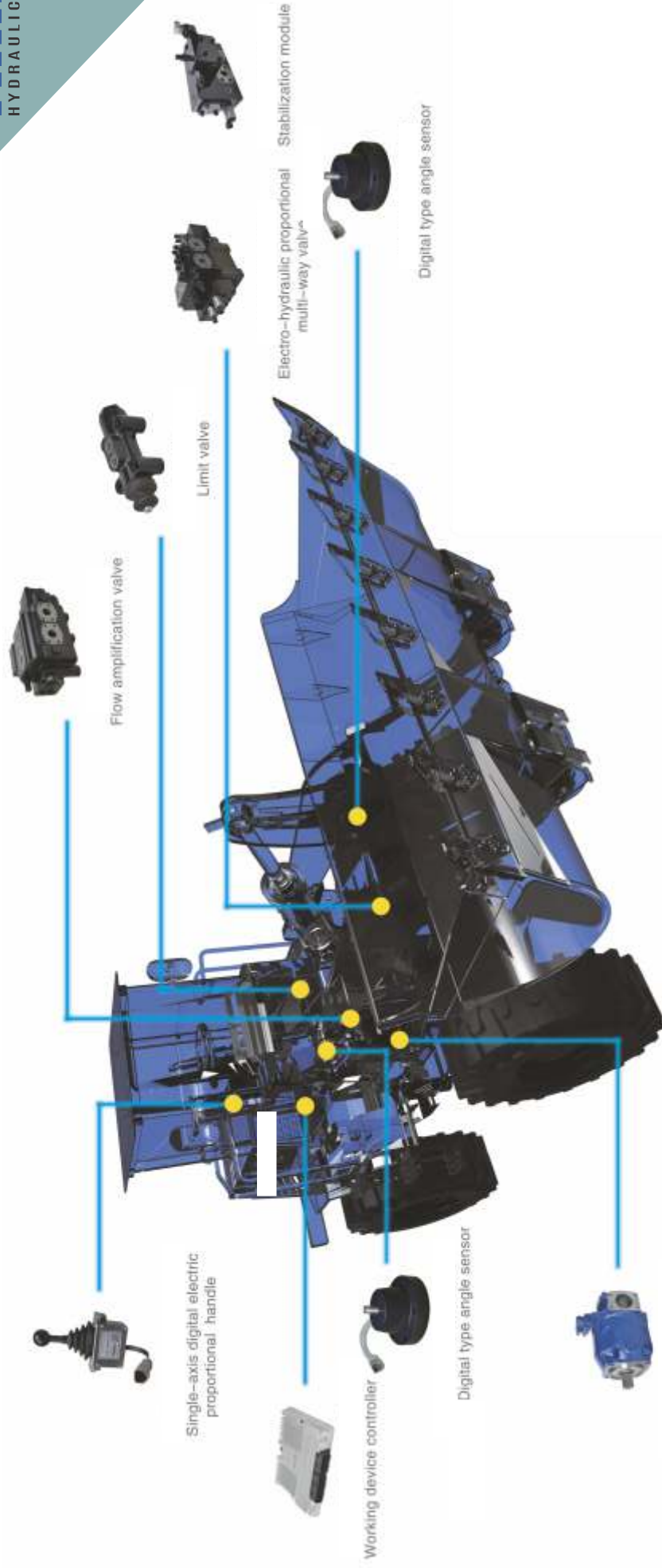


1. Overhaul platform compensation load sensitive control system consisting of electro-hydraulic proportional multi-way valve, electric proportional steering multi-way valve, platform control valve, display and multiple independent controllers.
2. Provides downstream pressure compensated load sensitive multi-way valve with electro-hydraulic control mode, the flow range is 30-100L/min, unique constant pressure difference technology with patent, accurate flow rate is not affected by pump pressure difference and piping etc joint, which will not affect by pump pressure difference and piping, etc. Anti-siphon flow, accurate test efficient compensation operation. With speed displacement sensing, small hysteresis and fast response.
3. Realizing the driving and steering of the whole vehicle, the expansion and contraction of boom, the rotation of turntable, the automatic adjustment of platform, the operators speed regulation, the smooth start and stop, the quick response, the smooth movement and good micro-movement.
4. Flow is allocated on demand, energy saving is about 30%.
5. Supporting man-machine interface with functions such as work unit status display, fault record query and diagnosis, parameter setting, etc.
6. Adopting independent controller for the turntable, chassis and platform, each of them is connected by CAN bus communication. At the same time, the control of the electrohydraulic controlled engine has high reliability. The controller has a rich communication interface such as RS232C/485/ETH.

Complete set of fully variable electro-hydraulic loader systems



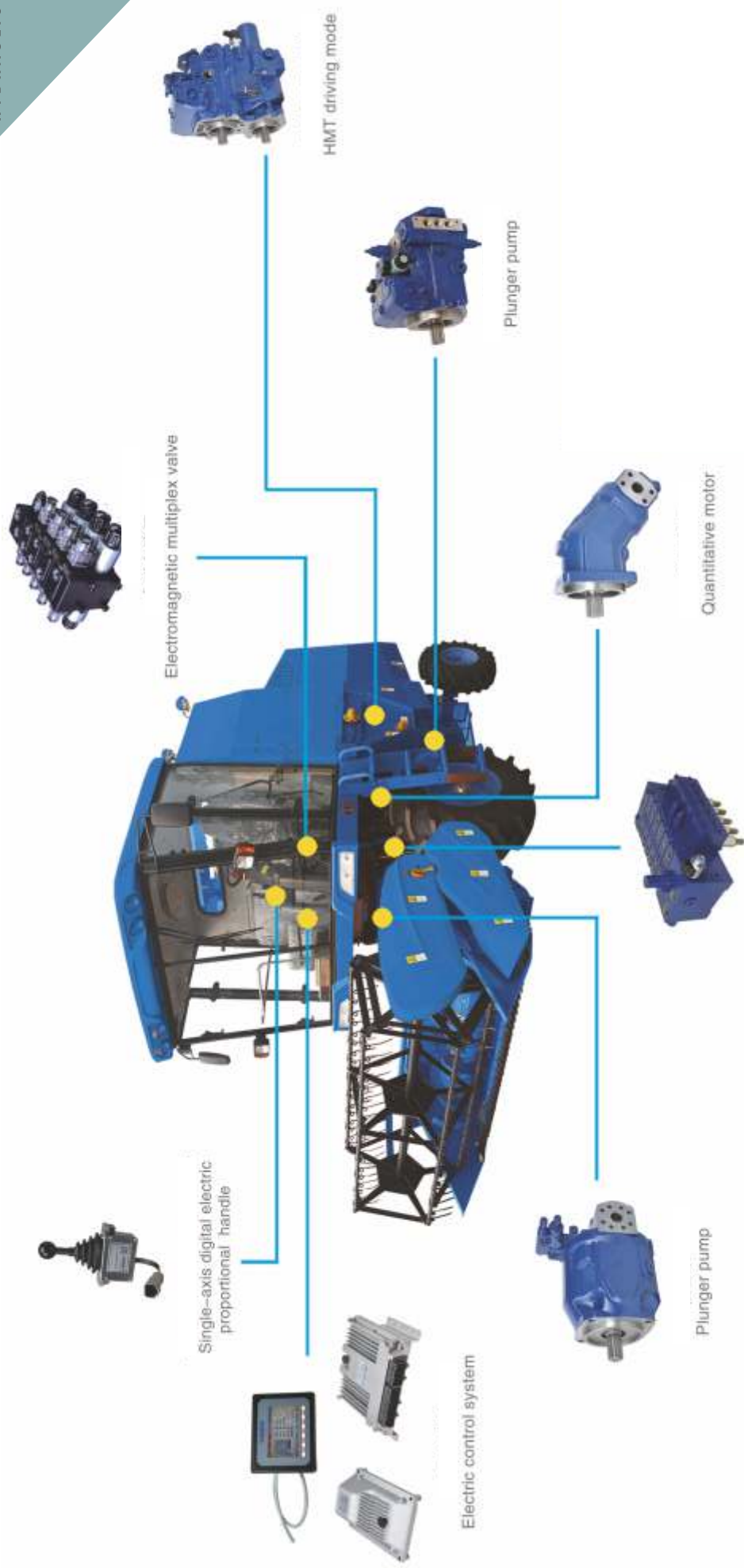
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VARIABLE DISPLACEMENT
PLUNGER PUMP

- It consists of plunger pump, electric proportional multi-way valve, flow amplification valve, controller, electronically controlled handle, sensor and etc., and it may provide the complete variable load sensitive electro-hydraulic proportional system of 3-9 tons loader.
- Four sizes of SA10VO variable pumps are available: displacement 71/85/100/108cm³/rev.
- Provides downstream pressure-concentrated load-sensitive valve with two control modes: hydraulic control and electric proportional. The flow range is 250-450L/min. Built-in hydraulic lock, bucket arm cylinder sinking prevent, back pressure valve with oil return, ensure that the cylinder rod chamber is not sucked empty, no back pressure, energy saving and efficient.
- Five control functions: limit position and any position buffer, bucket automatic leveling, transitional lift, boom bucket micro-motion, boom bucket automatic positioning.
- Pressure angle sensor in conjunction with the optimization algorithm, automatic weighing.
- Supporting man-machine interface with functions such as work unit status display, fault record query and diagnosis, parameter setting, etc.
- CAN bus communication system, real-time reading engine and transmission oil temperature data to achieve independent heat dissipation, sending information according to demands, convenient for remote monitoring.

Hydraulic Control System of Harvester



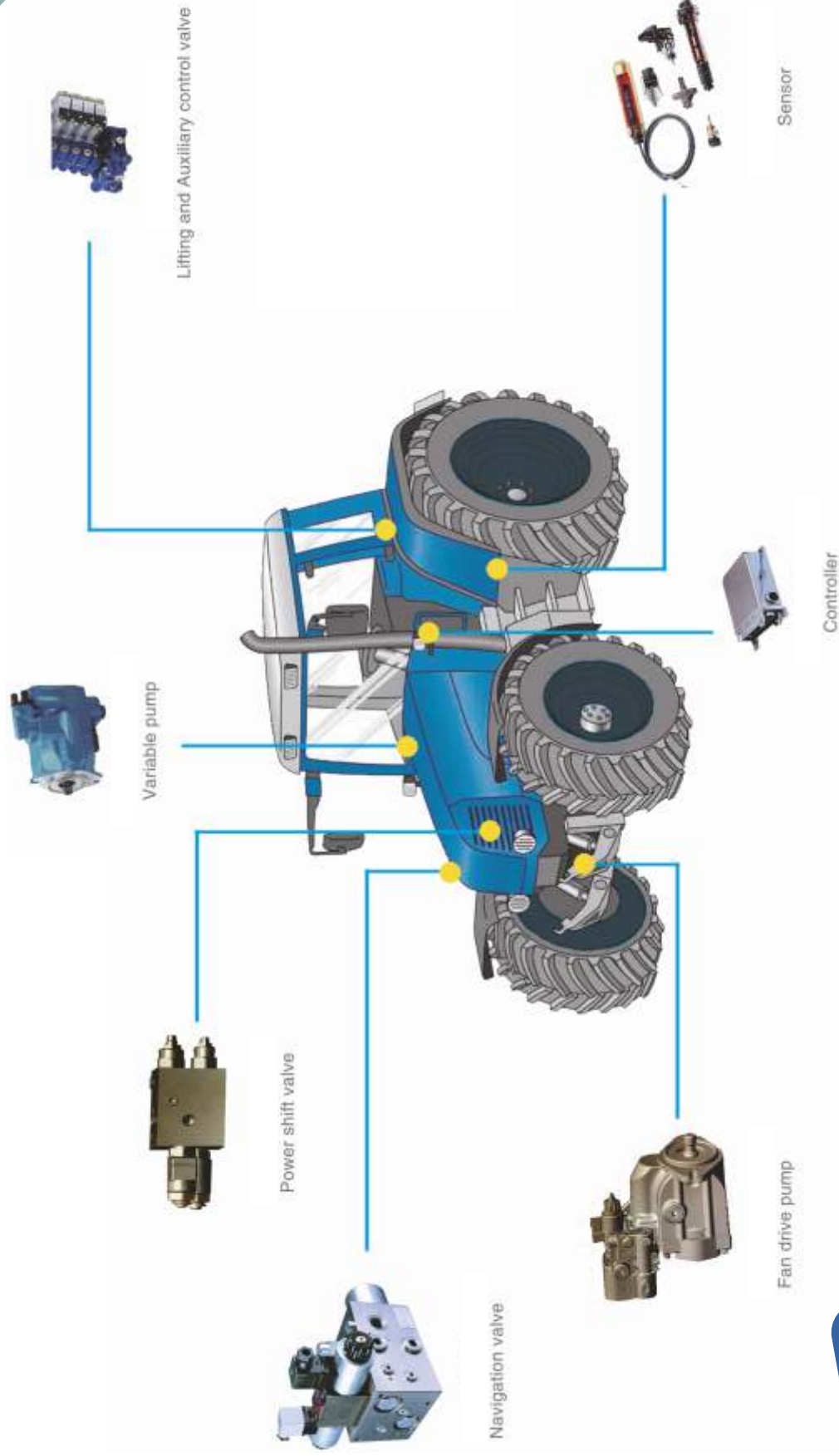
Proportional valve set

- 1) Mature hydrostatic driving element with complete displacement (40-100m³/h).
- 2) HMT walking mode can be realized with high transmission efficiency and good detugging performance.
- 3) Each action of the working device can realize the electromagnetic handle control, any action can be optional electrical proportional control, to achieve smooth operation.
- 4) Mature variable pump valve near load sensitive system, which can realize good control of rotation of the dial wheel and feeding of the auger spring.
- 5) Human-computer interaction system and control system can be customized according to requirements.

Tractor Electro-hydraulic control system

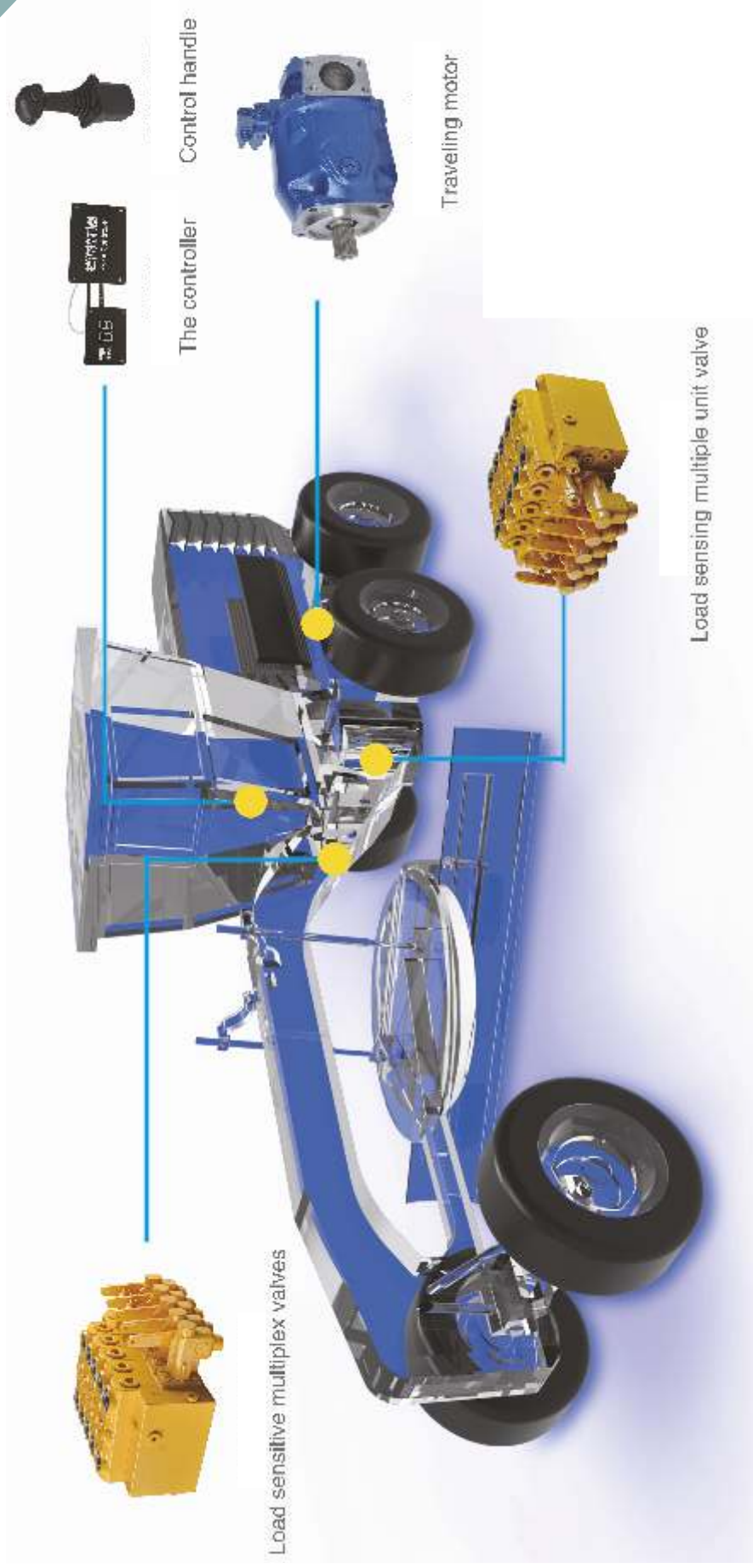


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1. Mature electro-hydraulic lifting control system for high and low end machines and tools, which can realize automatic switching between strong pressure and non-strong pressure.
2. Mature power shift electro-hydraulic control system, which can realize shuttle type, high and low and semi-automatic control and automatic control.
3. Variable pump engine heat dissipation system, which can well realize intelligent control of engine heat balance.
4. Human-computer interaction system and control system can be customized according to requirements.

Complete Hydraulics components for land leveller



- ① variable pump valve rear load sensitive system, energy saving, efficient
- ② Each action can be combined at will
- ③ Fast and accurate control of movements can be achieved
- ④ The operation is light and labor-saving

Electro-hydraulic system for road roller



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Handle controller

Axial piston variable pump

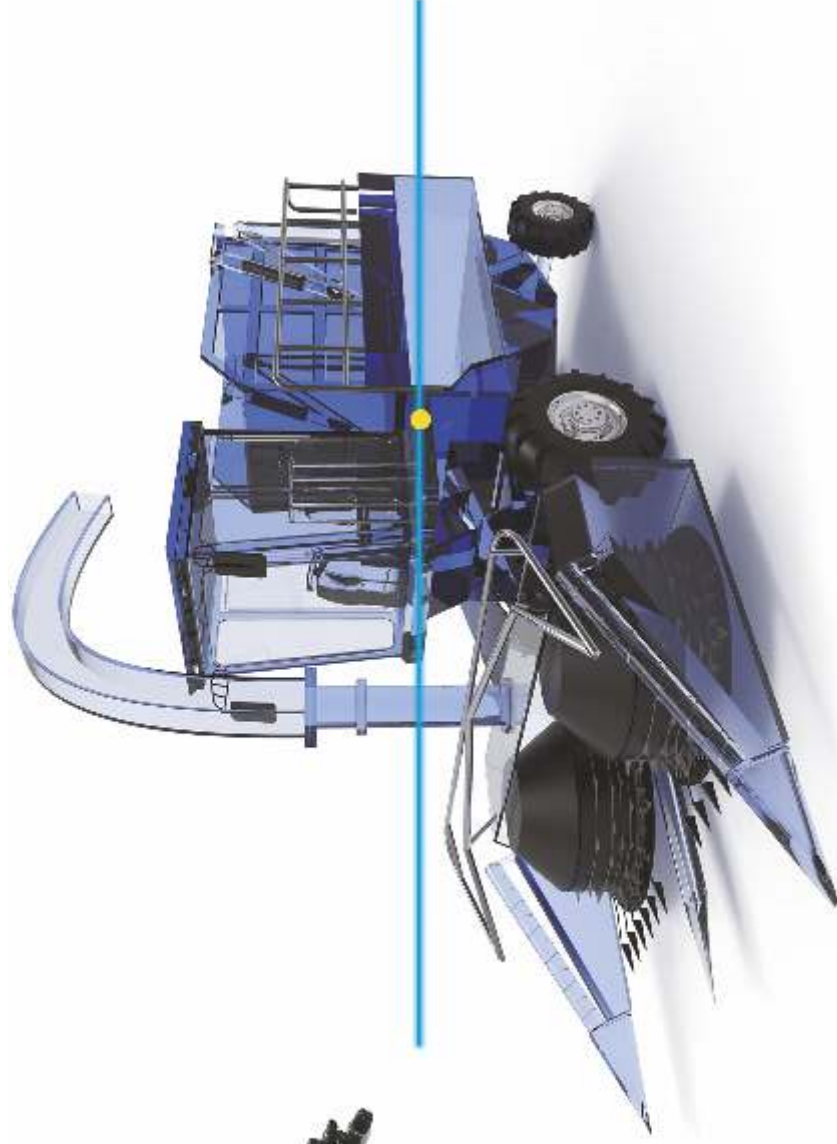
Axial piston quantitative motor - Axial piston variable motor



Tractor Electro-hydraulic control system



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Solenoid multi-way valves



Rotary cushion valve



Wheat harvester Hydraulic solutions



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Variable piston pump



Quantitative plunger motor



Multi-way valve



Solenoid multi-way valves



Rice harvester Hydraulic solutions



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multifunctional slid valve



Multi-way valve



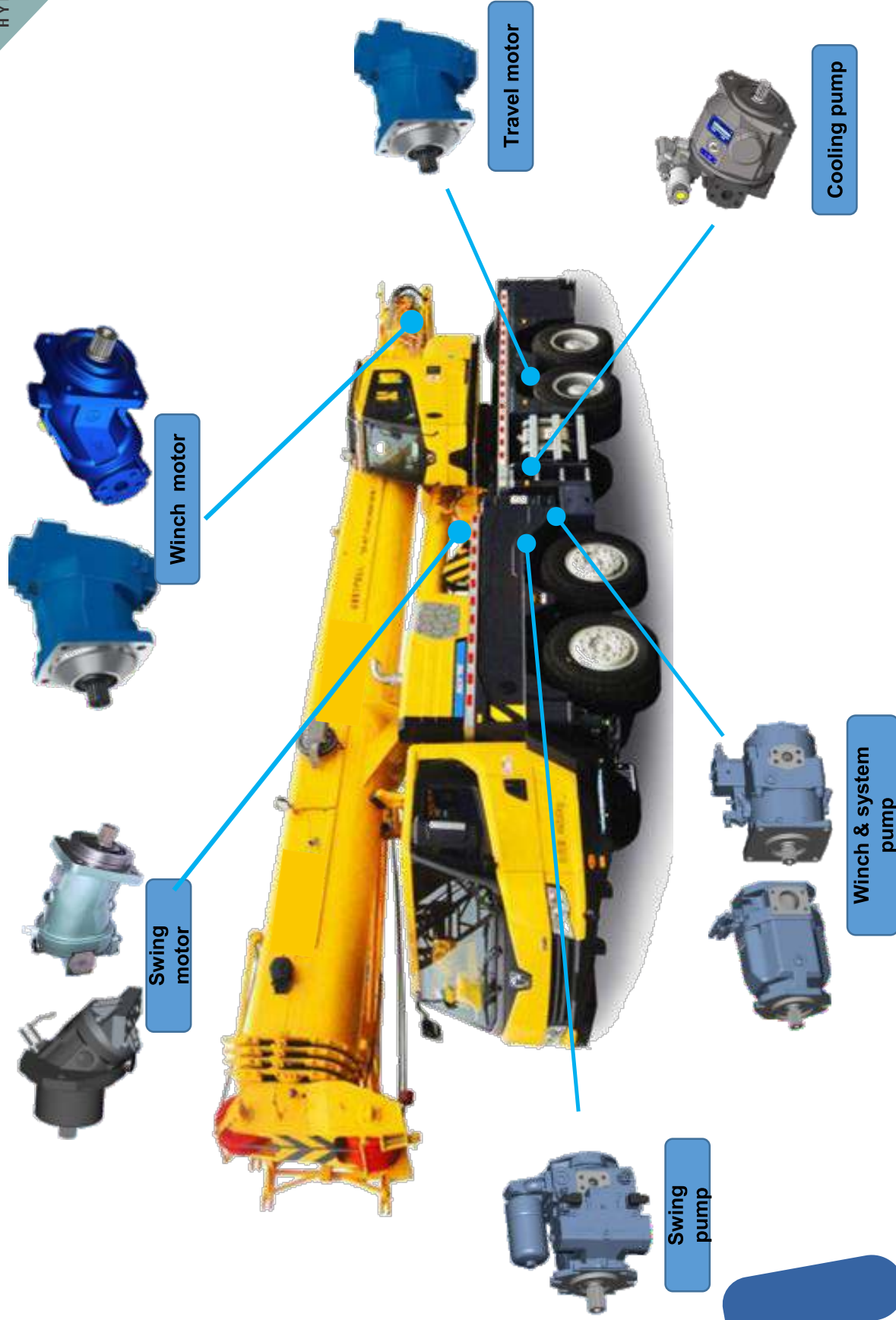
Corn harvester Hydraulic solutions



Wheel crane



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Excavator



Main pump



Travel motor

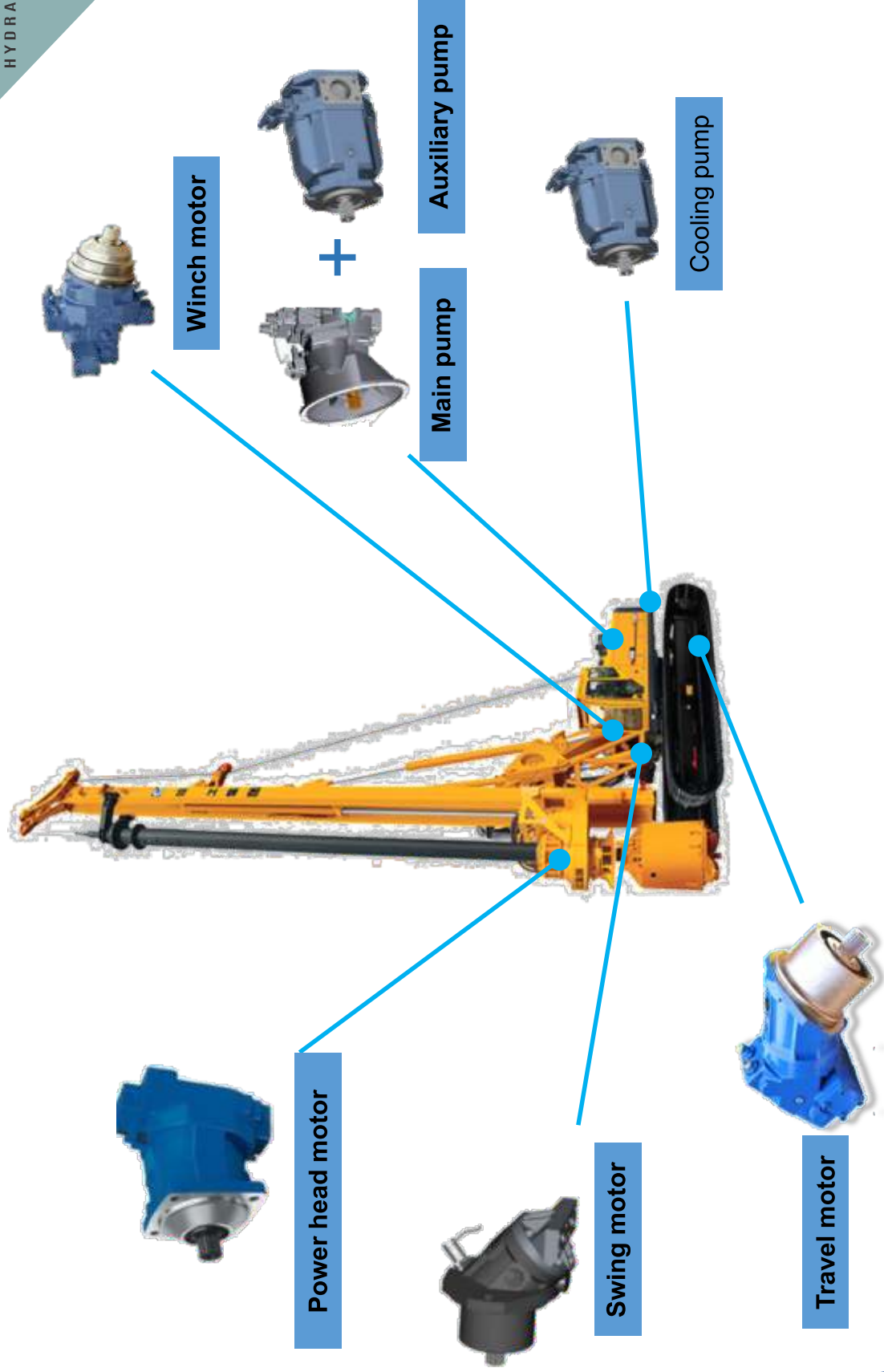


Final drive assembly

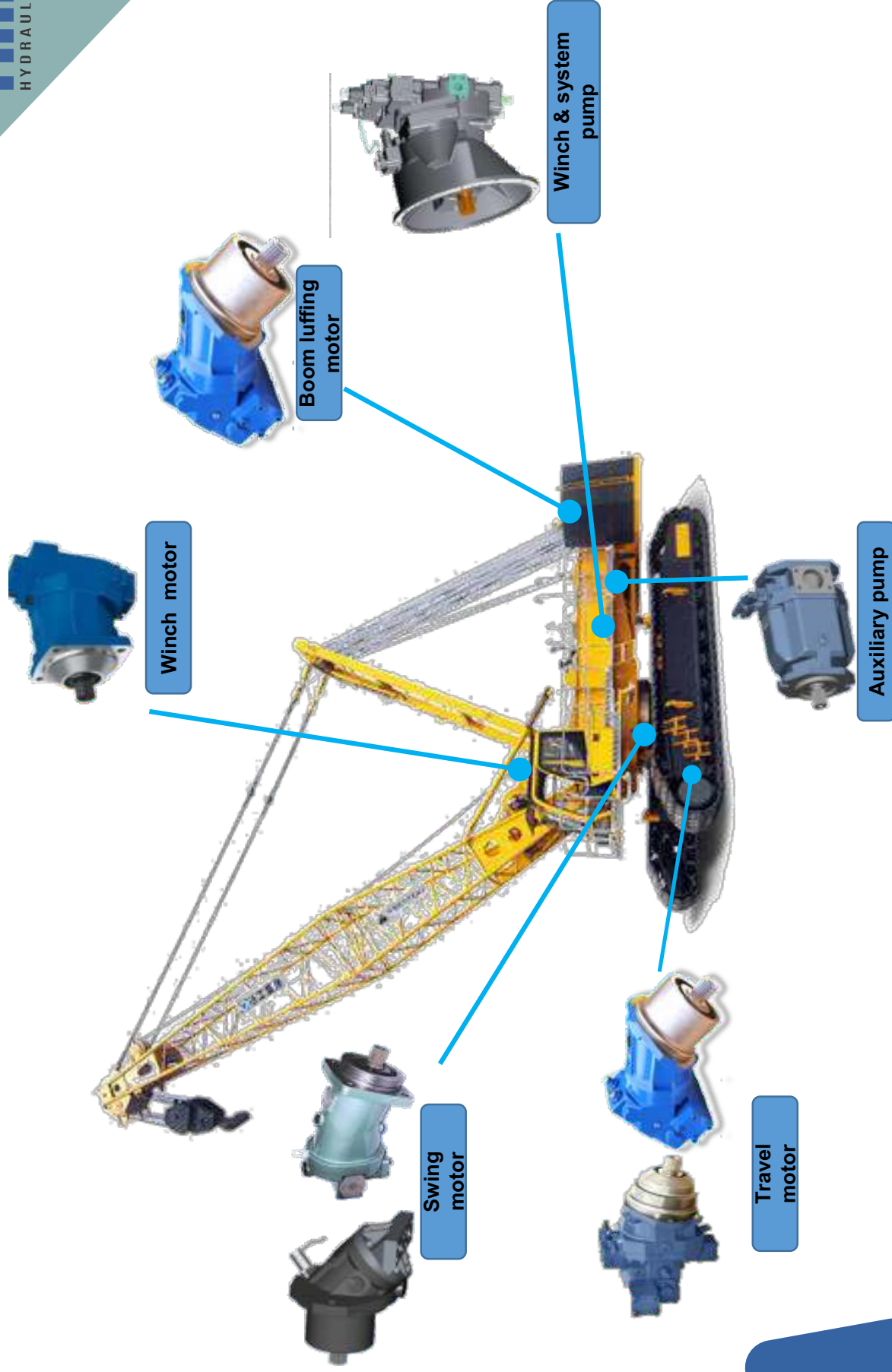


Swing assembly

Rotary drilling rig



Crawler Crane



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A2F

Fixed Displacement Pump/Motor
For Open & Closed circuit
Size 10 to 500 ml/r
Maximum pressure: 400 bar



Introduction

Axial piston unit of bent axis design with fixed displacement for use as either pump or motor in hydrostatic drivers, in open or closed circuit. If operated as a pump, the flow is proportional to the drive speed and displacement. If operated as a motor, the output speed is proportional to the swept volume and inversely proportional to displacement. The output torque increases with the pressure drop between the high and low pressure sides.

Features

- High performance rotary group with well-proven spherical control area with the advantages: self-centering low peripheral speed, high efficiency.
- Robust rolling bearings endure long service life.
- Drive shaft capable of adopting radial loading.
- ISO mounting flange, uniform for fixed displacement pumps/motors and variable motors from size 55
- May be used in conjunction with fire-resistant fluids.
- Low noise generation.

Ordering code

Fixed displacement Pump/Motor						= A2F										Port Plate 1, 2, 3, 4 (Below table)	
Displacement (ml/r)																Shaft end	
9.4						= 10										Keyed shaft GB1096-79)	
11.6						= 12		P =								Splined shaft DIN 5480	
22.7						= 23		Z =								Splined shaft GB 3478.1-83	
28.1						= 28		S =									
44.3						= 45										Series	
54.8						= 55										1, 2, 3, 4, 5	
63.0						= 63										(Below table)	
80.0						= 80											
107						= 107										Direction of rotation (view from shaft end)	
125						= 125		R =								Clockwise	
160						= 160		L =								Anti-clockwise	
200						= 200		W =								Alternating	
250						= 250										(Not for pumps in open circuit)	
355						= 355											
500						= 500											

Fixed displacement bent axis piston pump

A2FO

Fixed Displacement Bent Axis piston pump

Size 10 to 180 cc

Nominal pressure: 400 bar

Maximum pressure: 450 bar



Features

- Fixed displacement pump A2FO of axial piston, bent axis design is made suitable for hydrostatic drives in open circuits.
- Suitable for use in mobile or industrial applications.
- Output flow is proportional to drive speed and displacement.
- The drive shaft bearings are designed to give the service life expected in these areas of operation.
- Careful selection of the displacements offered, permit sizes to be matched to practically every application.
- Favorable power/ Weight ratio.
- Compact and economical design
- Optimum efficiency
- One piece pistons with piston rings

Specifications

Size				10	12	16	23	28	32	45	56
Displacement		V_g	cm ³	10.3	12.0	16.0	22.9	28.1	32	45.6	56.1
Max. speed		$n_{\max 1)}$	rpm	3150	3150	3150	2500	2500	2500	2240	2000
Max. perm. speed with increased input pressure P_{abs}		$n_{\max,perm. 2)}$	rpm	6000	6000	6000	4750	4750	4750	4250	3750
Max. perm. output flow at $n_{\max}$		$q_{v\max}$	l/min	32.4	37.8	50	57	70	80	102	112
Max. power at $q_{v\max}$	$\Delta p=350$ bar	$P_{\max}$	kW	18.9	22	29.2	33	41	47	59.5	65
	$\Delta p=400$ bar	$P_{\max}$	KW	21.6	25	34	38	47	53	68	75
Perm. torque	$\Delta p=350$ bar	T	Nm	57	67	88	126	156	178	254	312
	$\Delta p=400$ bar	T	Nm	65	76	101	145	178	203	290	356
Case volume			L	0.17	0.17	0.17	0.20	0.20	0.20	0.33	0.45
Weight (approx.)		m	kg	6	6	6	9.5	9.5	9.5	13.5	18

Size				63	80	90	107	125	160	180
Displacement		V_g	cm ³	63	80.4	90	106.7	125	160.4	180
Max. speed		$n_{\max 1)}$	rpm	2000	1800	1800	1600	1600	1450	1450
Max. perm. speed with increased input pressure P_{abs}		$n_{\max,perm. 2)}$	rpm	3750	3350	3350	3000	3000	2650	2650
Max. perm. output flow at $n_{\max}$		$q_{v\max}$	l/min	126	144	162	170	200	232	261
Max. power at $q_{v\max}$	$\Delta p=350$ bar	$P_{\max}$	kW	73.5	84	95	100	117	135	152
	$\Delta p=400$ bar	$P_{\max}$	KW	84	96	108	114	133	155	174
Perm. torque	$\Delta p=350$ bar	T	Nm	350	445	501	594	696	893	1003
	$\Delta p=400$ bar	T	Nm	400	511	572	678	795	1020	1145
Case volume			L	0.45	0.55	0.55	0.8	0.8	1.1	1.1
Weight (approx.)		m	kg	18	23	23	32	32	45	45

1) the values shown are valid for an absolute pressure (P_{abs}) of 1 bar at the suction inlet S and when operated on mineral oil (with a specific mass of 0.88kg/L).

2) by increase of the input pressure ($P_{abs} > 1$ bar) the rotational speeds can be increased to the max. admissible speeds $n_{\max}$ limit (speed limits)

Determining the size:

$$\text{Flow } q_v = \frac{V_g \times n \times n_v}{1000} \quad [\text{L/min}] \quad \text{Power } P = \frac{2\pi \times T \times n}{60000} = \frac{q_v \times \Delta P}{600 \times n_t} \quad [\text{kW}]$$

$$\text{Torque } T = \frac{V_g \times \Delta P}{20\pi \times n_{mh}} \quad [\text{Nm}]$$

V_g = Displacement per revolution in mL/r
 ΔP = Differential pressure in bar
 n = Speed in rpm
 n_v = Volumetric efficiency
 n_{mh} = Mechanical-hydraulic efficiency
 n_t = Overall efficiency

Fixed displacement bent axis piston pump

Ordering code

A2F																																																																																																			
Axial piston unit Bent axis design, fixed displacement for use with mineral oil = A2F																																																																																																			
Mode of operations Pump, Open circuit = O																																																																																																			
Size (Displacement V mL/rg³) 10, 12, 16, 23, 28, 32, 45, 56, 63, 80, 90, 107, 125, 160, 180																																																																																																			
Series																= 6																																																																																			
Index																= 1																																																																																			
Direction of rotation(View on shaft end) Clockwise Anti-Clockwise = R = L																																																																																																			
Seals NBR (nitril- caoutchouc) FKM (fluor- caoutchouc) = P = V																																																																																																			
<table border="1"> <thead> <tr> <th>Shaft end</th> <th>10</th> <th>12</th> <th>16</th> <th>23</th> <th>28</th> <th>32</th> <th>45</th> <th>56</th> <th>63</th> <th>80</th> <th>90</th> <th>107</th> <th>125</th> <th>160</th> <th>180</th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="2">Splined shaft DIN 5480</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>-</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>A</td> </tr> <tr> <td>●</td> <td>●</td> <td>-</td> <td>●</td> <td>●</td> <td>-</td> <td>●</td> <td>●</td> <td>-</td> <td>●</td> <td>-</td> <td>●</td> <td>-</td> <td>●</td> <td>-</td> <td>Z</td> </tr> <tr> <td rowspan="2">Parallel shaft with key, DIN 6885</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>-</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>B</td> </tr> <tr> <td>●</td> <td>●</td> <td>-</td> <td>●</td> <td>●</td> <td>-</td> <td>●</td> <td>●</td> <td>-</td> <td>●</td> <td>-</td> <td>●</td> <td>-</td> <td>●</td> <td>-</td> <td>P</td> </tr> </tbody> </table>																Shaft end	10	12	16	23	28	32	45	56	63	80	90	107	125	160	180		Splined shaft DIN 5480	●	●	●	●	●	●	-	●	●	●	●	●	●	●	●	A	●	●	-	●	●	-	●	●	-	●	-	●	-	●	-	Z	Parallel shaft with key, DIN 6885	●	●	●	●	●	●	-	●	●	●	●	●	●	●	●	B	●	●	-	●	●	-	●	●	-	●	-	●	-	●	-	P	
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	= preferred type
●	= available
-	= not available

1) fastening threads resp.threaded ports are metric

Variable Displacement pump
Axial piston swashplate design
Sizes: 10
Series: 52
Nominal pressure up to 280bar

- SAE and ISO mounting flange
- Compact construction
- High power-weight ratio
- Low noise level
- Lower press loss
- Short control times
- Pressure and flow control



A10VS

Axial piston unit

Variable, swash plate design

= A10VS

Mode of operation

Pump, open circuit

= O

Size

$\cong$ Displacement $V_{g\ max}$ (cm³)

= 10

Control devices

Pressure control	DR
Pressure-remote control	DRG
Pressure- and flow control	DFR1

Series

= 52

Direction of rotation

Looking at driveshaft	clockwise	R
	counter-clockwise	L

Seals

NBR (Nitrile rubber to DIN ISO 1629)

= P

Through drive

without through drive

NOO =

SAE DIN

Service ports

64	●	–	UNF-thread rear	Pressure port B Inlet port S
14	–	●	metric thread rear	

SAE DIN

Mounting flange

C	●	–	SAE 2-bolt
A	–	●	ISO 2-bolt

SAE DIN

Shaft end

K	●	–	Cylindrical with feather key 19-1 (SAE A-B)
P	–	●	Cylindrical with feather key DIN 6885
S	●	–	Spined shaft 19-4 (SAE A-B, 3/4")
U	●	–	Spined shaft 16-4 (SAE A, 5/8")

= preferred program (with short delivery times)

● = available

– = not available

Size				10
Displacement		$V_{g \max}$	cm ³	10.5
Max. speed ¹⁾	at $V_{g \max}$	$n_{o \max}$	rpm	3600
Max. perm. speed (speed limit)	at increase in input pressure p_{abs} or $V_g < V_{g \max}$	$n_{o \max \text{ zul}}$	rpm	4300
Max. volumetric flow	at $n_{o \max}$	$q_{v \max}$	L/min	37
	at $n_E = 1450 \text{ min}^{-1}$		L/min	15
Max. power ($\Delta p = 250 \text{ bar}$)	at $n_{o \max}$	$P_{o \max}$	kW	16
	at $n_E = 1450 \text{ min}^{-1}$		kW	6.5
Max. torque ($\Delta p = 250 \text{ bar}$)	at $V_{g \max}$	$T_{\max}$	Nm	42
Moment of inertia about drive axis		J	kgm ²	0.0006
Fill capacity			L	0.2
Approx. weight (without oil fill)		m	kg	8
Permissible loading on drive shaft: max. perm. axial force		$F_{ax \max}$	N	400
max. perm. radial force		$F_{q \max}$	N	250

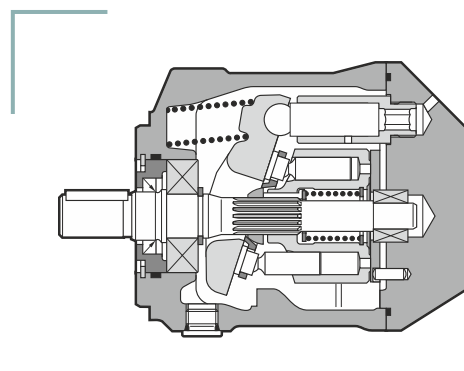
A10VSO

Variable Displacement pump
Axial piston swashplate design
Sizes 18...140
Series 31
Nominal pressure up to 280bar



Features

- Variable displacement axial piston pump of swashplate design for hydrostatic open circuit systems.
- Flow is proportional to drive speed and displacement.
- It can be infinitely varied by adjustment of the swashplate.
- ISO mounting flange
- Flange connections to SAE metric
- 2 case drain ports
- Good suction characteristics
- Permissible continuous pressure 280bar
- Low noise level
- Long service life
- Axial and radial loading of drive shaft possible
- High power-weight ratio
- Wide range of controls
- Short response times
- Through drive option for multi-circuit system



Specifications

Size				18	28	45	71	100	140
Displacement		V _{g max}	cm ³	18	28	45	71	100	140
Rotational speed maximum ¹⁾	at V _{g max}	n _{nom}	rpm	3300	3000	2600	2200	2000	1800
	at V _g < V _{g max} ²⁾	n _{max perm}	rpm	3900	3600	3100	2600	2400	2100
Flow	at n _{nom} and V _{g max}	q _{v max}	l/min	59	84	117	156	200	252
	at n _E = 1500 rpm and V _{g max}	q _{vE max}	l/min	27	42	68	107	150	210
Power at Δp = 280 bar	at n _{nom} and V _{g max}	P _{max}	kW	28	39	55	73	93	118
	at n _E = 1500 rpm and V _{g max}	P _{E max}	kW	12.6	20	32	50	70	98
Torque at V _{g max} and	Δp = 280 bar	T _{max}	Nm	80	125	200	316	445	623
	Δp = 100 bar	T	Nm	30	45	72	113	159	223
Rotary stiffness of drive shaft	S	c	Nm/rad	11087	22317	37500	71884	121142	169437
	R	c	Nm/rad	14850	26360	41025	76545	-	-
	P	c	Nm/rad	13158	25656	41232	80627	132335	188406
Moment of inertia for rotary group		J _{TW}	kgm ²	0.00093	0.0017	0.0033	0.0083	0.0167	0.0242
Case volume		V	l	0.4	0.7	1.0	1.6	2.2	3.0
Weight without through drive (approx.)		m	kg	12.9	18	23.5	35.2	49.5	65.4
Weight with through drive (approx.)				14	19.3	25.1	38	55.4	74.4



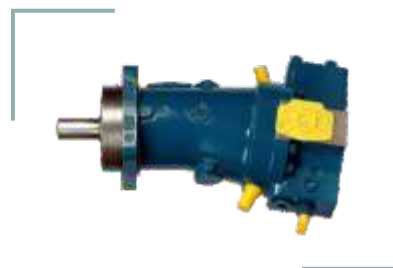
Variable Displacement pump, swashplate type

Ordering code

Hydraulic fluid Mineral oil (Without short code)		A10VS		O																
Axial piston unit Swashplate design, variable, industrial range = A10VS																				
Mode of operations Pump, open circuit = O																				
Size																				
≅ Displacement V _{gmax} (cm³)		18	28	45	71	100	140													
Control device		18 28 45 71 100 140																		
Pressure control	DR		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	DR
	DR	G	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	DRG
remotely control																				
Pressure/flow control	DFR																			DFR
	DFR	1	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	DFR1
Without orifice in X line			—	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	DFLR
		DFLR	1	—	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	DFLR1
Series		= 31																		
Direction of rotation																				
Viewed on shaft end Clockwise		= R																		
Viewed on shaft end Anti-Clockwise		= L																		
Seals																				
NBR nitril-caoutchouc to DIN ISO 1629 (shaft seal in FKM)		= P																		
FKM fluor-caoutchouc to DIN ISO 1629		= V																		
Drive shaft		18 28 45 71 100 140																		
Splined shaft ANSI B92.1a	standard shaft	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	S
	similar to shaft "S" however for higher input torque	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	R
Parallel keyed shaft DIN 6885	permissible through- drive torque	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	P
Mounting flange																				
ISO 3019-	2 hole	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	A
	4- hole	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	B	
Service line connections																				
Pressure port B	SAE ports at opposite sites																	12		
Suction port S	Metric fixing thread																			
Pressure port B	SAE ports at opposite sites																	62		
Suction port S	Metric fixing thread																			
Through drives																				
Flange ISO 3019 Diameter	Hub for splined shaft ¹⁾ Diameter	18	28	45	71	100	140													
without through drive		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	N00	
82-2 (A)	5/8 in 9T 16/32DP	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	K01	
	3/4 in 11T 16/32DP	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	K52	
101-2 (B)	7/8 in 13T 16/32DP	—	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	K68	
	1 in 15T 16/32DP	—	—	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	K04	
127-2 (C)	1 1/4 in 14T 12/24DP	—	—	—	•	•	•	•	•	•	•	•	•	•	•	•	•	•	K07	
	1 1/2 in 17T 12/24DP	—	—	—	—	•	•	•	•	•	•	•	•	•	•	•	•	•	K24	
152-4 (D)	1 3/4 in 13T 8/16DP	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	K17	
Ø63, metric 4-hole	Shaft key Ø25	—	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	K57	

• = available - = not available

Variable displacement pump
Axial tapered piston, bent axis design
For Open circuits
Size 20-500
Maximum pressure: 400 bar



Variable displacement pump, axial piston, bent axis design for hydrostatic transmissions in open circuits. The flow is proportional to the drive speed and the displacement and steplessly variable at constant drive speed. comprehensive programme of control devices for every control and regulation function. operation of both mineral, and fire-resistant fluids.

- High performance rotary group with well proven spherical control area offering the following advantages; self-centering, low peripheral speed, high efficiency.
- Long service life robust rolling bearing.
- Drive shaft will support radial loads.
- Low noise level.
- High duty roller bearing for inter-mittent high pressure operation.
- For continuous duty hydrostatic bearing are available.

[illegible]

A8V

Variable displacement double pump
Axial tapered piston, bent axis design
For Open circuits
Size 28-160
Maximum pressure: 400 bar



Introduction

Two variable pumps in a common housing, the splitter box, an SAE flange for direct mounting on to the prime mover and the control device-Usually summation HP control. Flow is proportional to speed by change the swivel angle.

Features

- The various design options with auxiliary drive and the possibility of multi-circuit control optimum matching to individual drive applications.

Ordering code

Variable Displacement Double pump		= A8V							
Displacement (mL/r)									
8.1-28.1		= 28							
15.8-54.8		= 55							
0-58		= 58							
23.1-80		= 80							
30.8-107		= 107							
21.8-125		= 125							
46.2-160		= 160							
Control device									
Summation HP control		= SR							
Individual power control		= LL							
Cross-sensing control		= LLC							
Constant pressure and manual control		= DM							
Design									
See below table									

A11V(L)O

Swash plate Axial Piston Pump
 Sizes: 75 to 190 mL/r
 Nominal pressure up to 350 bar
 Maximum pressure up to 400 bar



Features

- Axial piston variable displacement pump of swash plate construction for hydrostatic transmission in open circuit.
- Mainly used in concrete pump trucks, scrapers, concrete machinery, road machinery, Construction machinery fields such as compaction machinery and hoisting machinery.
- The pump is under self-priming condition, the tank is pressurized or it works with a booster pump.
- A variety of variable mechanisms can be provided for different control and adjustment functions to meet different operational requirements.
- The pump is available with a through shaft drive, which can carry a gear pump or up to the same size axial Plunger pump. (100% through axle drive)
- The output flow is proportional to the drive speed and can be stepless between the maximum flow and zero Variety.

Specifications

A11VO			75	95	115	130	145	190				
A11VLO									130	145	190	
Displacement	V _{gmax}	ml/r	75	95	115	130	145	190	130	145	190	
Rotating speed												
Maximum value at V _{g max a)}	n _{max}	rpm	2550	2350	2300	2100	2200	2100	2500	2500	2500	
Maximum value when V _g < V _{g max b)}	n _{max1}	rpm	3000	2780	2700	2500	2500	2500	2500	2500	2500	
Flow (at n _{max} , V _{gmax})	q _v	L/min	191	221	264	273	319	405	325	363	475	
Power												
at n _{max} , V _{g max} and ΔP=350bar	p	Kw	111	129	154	159	186	236	190	211	281	
Torque												
at V _{g max} and ΔP=350bar	T	Nm	412	521	640	724	808	1075	724	808	1075	
Oil filling amount	V	L	1.9	2.1	2	2.9	2.9	3.8	2.9	2.9	3.8	
Weight Approx (without thru-shaft drive)	m	Kg	45	53	53	66	69	95	72	7.3	104	

- a) The V_{gmax} value of A11VO is in the case of S port absolute pressure PS = 1bar, and mineral hydraulic oil is used;
 The V_{gmax} value of A11VLO is when the absolute pressure of S port is PS ≤ 0.8bar, and the mineral hydraulic oil is used.
 b), the V_g value is in the case of PS boost.

$$= A11V$$
[illegible][illegible]

Standard/Special Models	Standard type		Special type
	unsigned	recting pump	

	SAE J744-274	SAE J744-474	SAE J617b) (SAE3)
C	—	—	—
D	●	●	—
G	—	—	—

● = Available — = Not Available ▲ = On Request

A4VTG90

Variable Displacement Axial piston pump

size: 90

Max. pressure: 450 Bar



Introduction

- Variable axial piston pump of swashplate design for hydrostatic closed circuit transmission.
- Flow is proportional to drive speed and displacement is infinitely variable.
- Flow increases with the swivel angle of the swash plate from 0 to its maximum value.
- Flow directional changes smoothly when the swashplate is moved through the neutral position.
- Two Pressure relief valves are provided on the higher pressure ports to protect the hydrostatic transmission (pump and motor) from overload.
- The high-pressure relief valves are also function as boost valves.
- The integrated boost pump acts to replenish leakage and provide control oil.
- The maximum boost pressure is limited by a built-in boost-pressure-relief valve

Technical Specifications

Size				90
Displacement	variable pump	$V_{g \max}$	cm ³	90
	auxiliary pump (at p = 20 bar)	$V_{g H}$	cm ³	28.3
Speed	max. speed with $V_{g \max}$	$n_{\max \text{ contin.}}$	rpm	3050
	minimum speed	$n_{\min}$	rpm	500
Flow	at $n_{\max \text{ contin.}}$ and $V_{g \max}$	$q_{v \max}$	L/min	275
Power	at $n_{\max \text{ contin.}}$ $\Delta p = 400 \text{ bar}$	$P_{\max}$	kW	183
Torque	at $V_{g \max}$ $\Delta p = 400 \text{ bar}$	$T_{\max}$	Nm	572
	(variable pump without aux. pump) $\Delta p = 100 \text{ bar}$	T	Nm	143
Moment of inertia (about drive axis)		J	kgm ²	0.0106
Weight (standard model without through drive) approx.		m	kg	48

Variable displacement Axial piston pump

Ordering code

A4VT	G	90	HW			/	3	2	R	-	N	L	D	12	F00	1	S
------	---	----	----	--	--	---	---	---	---	---	---	---	---	----	-----	---	---

Variable swash plate design		A4VT
Operation		
Pump in closed circuits	G	
Size		
Displacement $V_{g_{max}}$ in cm^3	90	
Control Devices		
Proportional control, hydraulic, mechanical servo, hex shaft with lever to rear	HW	
Mechanical stroke limiter		
Without mechanical stroke limiter	No Code	
With mechanical stroke limiter, external variable	M	
Ports X_3 and X_1 for stroking chamber pressure		
Without ports X_3 and X_4	No Code	
With ports X_3 and X_4	T	
Series	3	
Index	2	
Direction of rotation		
Viewed on shaft end	clockwise	R
	anti-clockwise	L
Seals		
NBR (nitrile-caoutchouc), shaft seal in FKM (Fluor-caoutchouc)	N	
Shaft end		
Splined shaft SAE	Without coupling flange	S
	With coupling flange	L
Mounting flange		
SAE C, 4-hole	D	
Service line ports		
Ports A/B SAE, (metric fixing screws) at side (same side)	10	
Auxiliary pump and through drive		
Auxiliary pump	Through drive	
	Flange	Splined shaft hub
•	-	-
•	SAE A, 2 hole	SAE A(N5/8"-9T 16/32DP)
•	SAE B, 2 hole	SAE B(N7/8"-13T 16/32DP)
		F00
		F01
		F02
Valves		
With high-pressure relief valve, pilot operated; with bypass	1	
Filtration		
Filtration in suction line of boost pump	S	

CY series pump/Motor

Axial Piston Pump/Motor

Sizes: 2.5 to 400

Max. pressure: 315 Bar



Introduction

The CY14-1B Hydraulic Pump is of axial piston type with hydrostatic film lubrication of bearing. It makes a feature of compact size, light weight, high efficiency, longer life, simple construction and easy maintenance. This Hydraulic Pump nominal displacement up to (10, 25, 63, 160, 250) ml/r and carries its rating pressure up to 315Bar and a maximum pressure up to 400Bar, and can run with a speed upto 1500rpm.

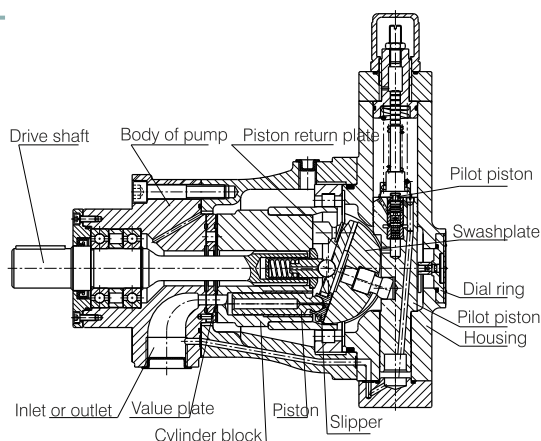
Ordering code

Q	10	M	C	Y	14	1	B	
Low noise = Q Nominal Displacement (ml/r) 1.25, 2.5, 10, 13, 16, 25, 32, 40, 63, 80, 100, 160, 250, 400 Fixed displacement = M Manually operated = S Pressure compensated = Y Step displacement = MY Displacement at constant pressure = P Working pressure 315 Bar = C Pump = Y Motor = M No code = clockwise rotation F = Counter clockwise rotation Code for modified design (e.g. A, B, C.....) Code for 1st design Axial piston pump (motor) with rotary body								

Specifications

Model		Rated Pressure (Bar)	Nominal displacement (ml/r)	Rated flow (L/min)		Power-output (KW)
				1000rpm	1500rpm	1000rpm
2.5	*CY14-1B	315	2.5	2.5	3.75	1.43
10		315	10	10	15	5.7
25		315	25	25	37.5	14.1
40		315	40	40	60	22.6
63		315	63	63	94.5	35.6
80		315	80	80	120	46.6
160		315	160	160	240	92.2
250		315	250	250	375	133.2
400		315	400	400	600	199.5

Structure Diagram



HY series

Axial Piston Pump
Sizes: 10 to 320 ml/r
Max. Pressure up to 400 Bar



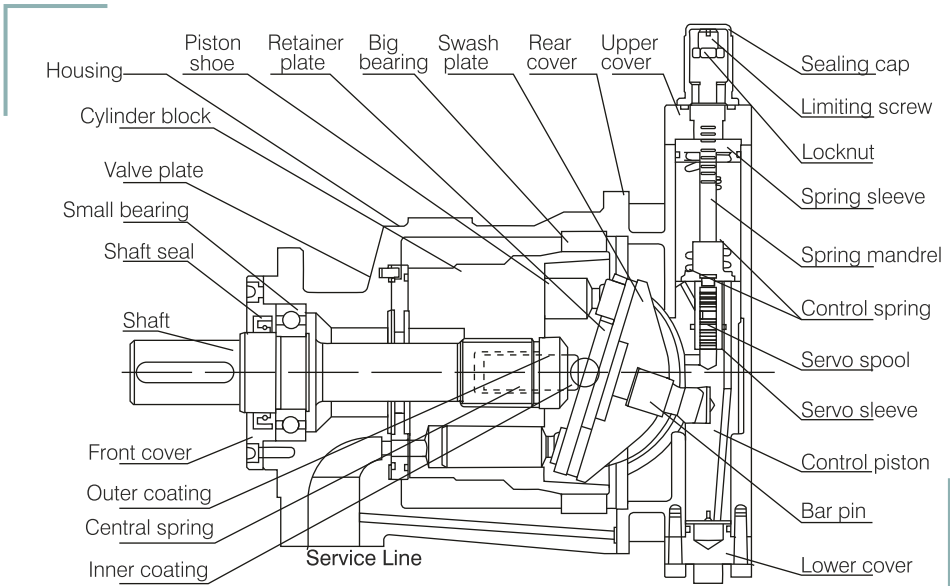
Introduction

The HY14-1B Hydraulic Pump is of axial piston type with hydrostatic film lubrication of bearing. It makes a feature of compact size ,light weight, high efficiency, longer life, simple construction and easy maintenance. This Hydraulic Pump nominal displacement up to (10, 25, 63, 160, 250) ml/r and carries its rating pressure up to 315Bar and a maximum pressure up to 400Bar, and can run with a speed upto 1500rpm.

Ordering code

	HY	107	Y	-	R	P
Variable displacement pump	= HY					
Displacement	10, 16, 18, 25, 28, 32, 40, 45, 55, 63, 71, 80, 90, 95, 100, 107, 125, 140, 160, 180, 200, 225, 250, 280, 300, 320 ml/r					
Controller direction of rotation						
Fix displacement control						= M
Constant power control						= Y
Grading variables control						= MY
Electro hydraulic						= B
Manual control						= S
Pressure control						= P
Pressure control, energy-saving						= P01
Remote pressure control						= P02
Pressure and flow control						= P03
High and low voltage compensation control						= P04
High and low voltage compensation remote control						= P04
Direction of rotation						
Clockwise						= R
Anti-clockwise						= L
Shaft end						
Metric parallel with key						= P

Structure Diagram



PV Series

Axial Piston Pump

Max. pressure: 420 bar

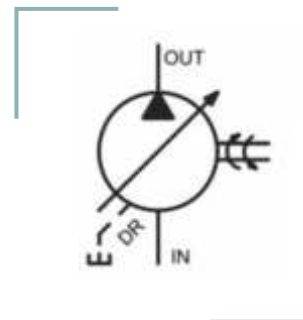
Displacement: 16 to 270 cm³/rev



Features

- New type of swash plate and large servo piston with strong bias spring achieves fast response, reduce the noise due to active decompression of system at down stroke.
- Nine pistons and new pre-compression technology (pre-compression filter volume) result in unbeaten low outlet flow pulsation.
- Complete compensator program offers multiple controls.
Rigid and FEM-optimized body design for lowest noise level.
Thru-drive for 100% nominal torque.
- Pump combination (multiple pumps) of same size and model and mounting interface for basically all metric or SAE mounting interfaces.
- Wide application in automobile industrial, ships, forging machines, tire machines, injection moulding machine, machine tools, special-purpose machine.

Graphic symbol



Specifications

Size	Model	Pressure		Displacement		Pump delivery(7 bar)		Approx. Noise levels			Speed		Weight (kg)
		Nominal pressure	Max. pressure	cm³/rev	In³/rev	1500 RPM	1800 RPM	dBA full flow & 1500 RPM			Max RPM	Min. RPM	
						LPM	LPM	70 bar	207 bar	343 bar			
1	PV016	350	420	16	0.98	24	28.8	56	60	68	2750	300	19 (42)
	PV020			20	1.2	30	36						
	PV023			23	1.4	34.5	41.4						
	PV028	315	350	28	1.7	42	50.4						
2	PV032	350	420	32	1.9	48	57.6	59	62	69	2400		30 (66)
	PV040			40	2.4	60	72						
	PV046			46	2.8	69	82.2						
	PV056	280	350	56	3.41	84	100.8						
	PV065	250	315	65	3.96	97.5	117						
3	PV063	350	420	63	3.8	94.5	113.4	66	70	74	2100		60 (132)
	PV071			71	4.3	107	128.7				2100		
	PV080			80	4.8	120	144				2000		
	PV092			92	5.6	138	165.6				1900		
	PV110	250	280	110	6.7	165	198				1900		
	PV125	250	280	125	7.6	187.5	225				1900		
4	PV140	350	420	140	8.5	210	252.1	70	74	76	2200	90 (198)	
	PV180			180	11	270	324	71	75	77			
	PV210	300	350	210	12.8	315	378	73	77	79			2100
5	PV270	350	420	270	16.5	405	486	77	79	89	1800	172 (379)	

- Outlet port is on the top, the pipe pressure should be less than 2 bar.
- The usage of max. Pressure for each circle never exceed 6 seconds. Please see the General Installation for hydraulic oil cleanliness manual.
- THM offers tandem pump or other types of pump connection. The mouting has Metric and SAE dimensions.

Ordering code

PV	063	GA	3	R	M	1	A	0	N	
1	2	3	4	5	6	7	8	9	10	11

Series Size and displacement Control device Pressure adjusting Rotation Mounting Threads Thu drive & 2nd pump Voltage Seals Design No.

E	Horse power
4	for horse power control ("P" prefix)

Series

Axial piston pump variable displacement high pressure version	Nominal pressure : 350 bar Max. pressure : 420 bar	PV
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Size and displacement

Code		016	020	023	028	032	040	046	056	065	063	071	080	092	110	125	140	180	210	270
Size		1				2					3						4			5
Displacement	cm³/rev	16	20	23	28	32	40	46	56	65	63	71	80	92	110	125	140	180	210	270
	in³/rev	0.98	1.2	1.4	1.7	1.9	2.4	2.8	3.41	3.96	3.8	7.3	4.8	5.6	6.6	7.6	8.5	11	12.6	16.5

Control Device

Standard pressure compensator	A0
None pressure compensator (fixed displacement) (pressure protection required)	LN
Electrical 2-stage flow compensator (pressure protection required)	LS
Fixed displacement 2-stage flow compensator (pressure protection required)	LC

Remote type

Remote pressure compensator with Ng6 interface	GM
Remote pressure compensator + Relief valve	GA
Remote pressure compensator + proportional pressure valve	GJ

Electrical unloading type

Remote pressure compensator + Electrical unloading	GR
Remote pressure compensator + 2-stage pressure control	GB
Remote pressure compensator + Electrical unloading + 2-stage pressure control	GC

Load- sensing type

Load sensing compensator with NG6 interface	HM
load sensing compensator + Relief valve	HA
Load sensing compensator + Proportional pressure valve	HJ

Load-sensing + Electrical unloading type

Load-sensing compensator + Electrical unloading	HR
Load- sensing compensator + 2-stage pressure control	HB
Load-sensing compensator + Electrical unloading + 2-stage pressure control	HC

Proportional pressure, flow type

Load-sensing compensator+ Proportional flow valve+ Relief valve	HQ
Load-sensing compensator + proportional pressure valve+ Proportional flow valve	HK
None-stage flow compensator (Cylinder)	BQ

2-valve load-sensing type

2-valve load-sensing compensator with NG6 interface	VM
2-valve load-sensing compensator + Relief valve	VA
2-valve load-sensing compensator+ Proportional pressure valve	VJ

Ordering code

2-valve proportional pressure, flow type	
2-valve load-sensing compensator + Proportional flow valve + Relief valve	VQ
2-valve load sensing compensator + Proportional pressure valve + Proportional flow valve	VK
Proportional compensation type	
2-valve load-sensing compensator+ High reacted proportional flow valve+ Flow feed back+ Relief valve	FV
2-valve load-sensing compensator+ High reacted proportional flow valve+ Proportional pressure + Flow & pressure feedback	FG
Horse power type	
Horse power compensator with NG6 interface	PM
Horse power compensator + Relief valve	PA
Horse power compensator + Proportional pressure valve	PJ
Horse power compensator + Relief valve + Electrical unloading	PR
Horse power load-sensing compensator + Relief valve	PH
Horse power load-sensing compensator+ Proportional flow valve+ Relief valve	PQ
Horse power load-sensing compensator+ Proportional pressure valve	PS

Pressure Adjustment

10-140 bar	2
35-250 bar	3
40-280 bar	4
50-315 bar	5
70-350 bar	6

Pressure range for each displacement:

	2	3	4	5	6
PV016-PV023	●	●	●	●	●
Pv028	●	●	●	●	-
PV032-PV046	●	●	●	●	●
Pv056	●	●	●	-	-
Pv065	●	●	-	-	-
PV063-PV092	●	●	●	●	●
Pv110, PV125	●	●	-	-	-
Pv140, PV180	●	●	●	●	●
Pv210	●	●	●	-	-
PV270	●	●	●	●	●

Pressure range for control device:

	2	3	4	5	6
A0 Standard pressure compensator	●	●	●	●	●
LN None pressure compensator (fixed displacement) (pressure protection required)	●	●	●	●	●
LS Electrical 2-stage flow compensator (pressure protection required)	●	●	●	●	●
LC Fixed displacement 2-stage flow compensator (pressure protection required)	●	●	●	●	●

Remote type

GM Remote pressure compensator with NG6 interface	●	●	●	●	●
GA Remote pressure compensator + Relief valve	●	●	●	●	●
GJ Remote pressure compensator + Proportional pressure valve	●	●	-	-	-

Ordering code

Electrical unloading type					
GR Remote pressure compensator + Electrical unloading	●	●	●	●	●
GB Remote pressure compensator + 2-stage pressure control	●	●	●	●	●
GC Remote pressure compensator + Electrical unloading + 2 stage pressure control	●	●	●	●	●
Load-sensing type					
HM Load-sensing compensator with NG6 interface	●	●	●	●	●
HA Load-sensing compensator + Relief valve	●	●	●	●	●
HJ Load-sensing compensator + Proportional pressure valve	●	●	-	-	-
Load-sensing + Electrical unloading type					
HR Load-sensing compensator + Electrical unloading	●	●	●	●	●
HB Load-sensing compensator + 2 stage pressure control	●	●	●	●	●
HC Load-sensing compensator + Electrical unloading + 2 stage pressure control	●	●	●	●	●
Proportional pressure, flow type					
HQ Load-sensing compensator+ Proportional flow valve+ Relief valve	●	●	●	●	●
HK Load-sensing compensator+ Proportional pressure valve+ Proportional flow valve	●	●	-	-	-
BQ None-stage flow compensator (Cylinder)	●	●	●	●	●
2-Valve load-sensing type					
VM 2-valve load-sensing compensator with NG6 interface	●	●	●	●	●
VA 2-valve load-sensing compensator+ Relief valve	●	●	●	●	●
VJ 2-valve load-sensing compensator+ Proportional pressure valve	●	●	-	-	-
2-Valve Proportional pressure, flow type					
VQ 2-valve load-sensing compensator+ Proportional flow valve + Relief valve	●	●	●	●	●
VK 2-valve load-sensing compensator+ Proportional pressure valve+ Proportional flow valve	●	●	-	-	-
Pressure range for each control device:					
	2	3	4	5	6
Proportional compensation type					
FV 2-valve load-sensing compensator + High reacted proportional flow valve + Flow feedback+ Relief valve	●	●	●	●	●
FG 2-valve load-sensing compensator + High reacted proportional flow valve + Proportional pressure+ Flow & Pressure feedback	●	●	●	●	●
Horse power type					
PM Horse power compensator with NG6 interface	●	●	●	●	●
PA Horse power compensator + Relief valve	●	●	●	●	●
PJ Horse power compensator + Proportional pressure valve	●	●	-	-	-
PR Horse power compensator + Relief valve + Electrical unloading	●	●	●	●	●
PH Horse power load-sensing compensator+ Relief valve	●	●	●	●	●
PQ Horse power load-sensing compensator+ Proportional flow valve+ Relief valve	●	●	●	●	●
PS Horse power load-sensing compensator+ Proportional pressure valve	●	●	-	-	-
Pressure adjusting					
Displacement	Horse power				
PV016~PV023,28	A=3KW B=4KW C=5.5KW D=7.5KW E=11KW				
PV032~PV046,56,65	C=5.5KW D=7.5KW E=11KW F=15KW G=18.5KW H=22KW				
PV063~PV092,110,125	E=11KW F=15KW G=18.5KW H=22KW I=30KW J=37KW K=45KW				
Pv140	G=18.5KW H=22KW I=30KW J=37KW K=45KW L=55KW				
PV180,210	H=22KW I=30KW J=37KW K=45KW L=55KW M=75KW N=90KW				
Pv270	J=37KW K=45KW L=55KW M=75KW N=90KW O=110KW P=132KW				

Ordering code

Rotation

Clockwise	R
Counter clockwise	L

Mounting

Mounting \ Body		1	2	3	4	5
Metric	Parallel keyed	M, R	M, R	M, R	M, R, Q	M, R
	Splined	K, S	K, S, P	K, S	K, S, P	K, S
inch	Parallel keyed	N, J	N, J	N, J	N, J, F	N, J
	Splined	D, U	D, U, G	D, U	D, U, G	D, U

Threads

BSPP (G)	1
PT (RC)	2
UNF (SAE)	3
ISO 6149 (M)	7

Thru drive & 2nd pump

Displacement	Code	
PV016~PV270	A=Single pump B=Prepared for thru drive	
PV016~PV023, 28	C, D, E	I, J, K
PV032~PV046, 56, 65	D, E, F	I, J, K, L
PV063~PV092, 110, 125	D, E, F, G	I, J, K, L, M
PV140~PV180, 210	D, E, F, G	J, K, L, M
Pv270	D, E, F, G, H	J, K, L, M, N

Size

SAE AA, Ø50.8mm	C
SAE A, Ø82.55mm	D
SAE B, Ø101.6mm	E
SAE C, Ø127mm	F
SAE D, Ø152.4mm	G
SAE E, Ø165.1mm	H
Metric, Ø63mm	I
Metric, Ø80mm	J
Metric, Ø100mm	K
Metric, Ø125mm	L
Metric, Ø160mm	M
Metric, Ø200mm	N

Voltage

Other pumps are acceptable to order

None	0
AC100V (50/60Hz)	A
AC110V (60Hz)	B
AC200V (50/60Hz)	C
AC220V (60Hz)	D
DC 12V	E
DC 24V	F

Seals

NBR	N
VITON, FKM	V
Ethylen-propylene	E

PVB & PFB

Variable and Fixed Displacement Axial Piston Pumps

Operating pressure: 210 Bar

Displacement: 10.5 to 197.5 cm³/r

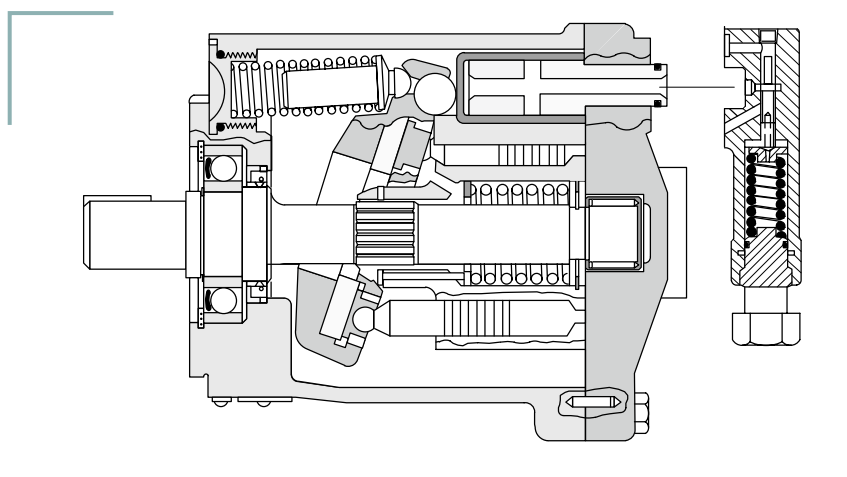


Introduction & Features

Both fixed and variable displacement models make up this range of axial piston pumps. Their high performance ratings and efficiencies are achieved with a variety of hydraulic fluids. Fixed displacement models are noted for their volumetric and mechanical efficiencies. Variable displacement models can closely match pressure and/or flow demand with a control selected from:

- Pressure compensator with or without a remote control facility.
- Pressure compensator with adjustable displacement control.
- Load sensing compensator.
- Mechanical (lever) control.
- Handwheel control

Function Section



Technical data

Basic model Designation	Geometric Displacement cm ³ /r	Maximum shaft speed (r/min)			Maximum outlet pressure (Bar)		
		Anti wear hydraulic oil	Water in oil emulsion 40%/60%	Water-glycol	Anti wear hydraulic oil	Water-glycol	Water in oil emulsion 40%/60%
PFB5	10.55	3600	1800	1800	210	175	175
PFB10	21.10	3200			210		
PFB20	42.80	2400			175		
PVB5	10.55	1800	1800	1800	210	140	140
PVB6	13.81				140	100	100
PVB10	21.10				210	140	140
PVB15	33.00				140	100	100
PVB20	42.80				210	140	140
PVB29	61.60				140	100	100
PVB45	94.50				210	140	140
PVB90	197.50	1800	1200	1200	210	140	140

Ordering code

Basic models															
Fixed displacement type = F															
Variable displacement type = V															
Displacement															
PFB and PVB models:															
10.55 cm ³ /r = 5															
21.10 cm ³ /r = 10															
42.80 cm ³ /r = 20															
PVB models only:															
13.81 cm ³ /r = 6															
33.00 cm ³ /r = 15															
61.60 cm ³ /r = 29															
94.50 cm ³ /r = 45															
197.50 cm ³ /r = 90															
Foot mounting option															
Foot mounting option for PVB45 and PVB90 models = F															
Omit for flange mounting.															
Note: For foot mounting brackets, for other models see bottom of page.															
Mounting flange															
Metric, to DIN/ISO 3019, Part 2 and VDMA 24560, Part 1 = M															
Omit for SAE mounting flange															
Shaft rotation (Viewed at shaft end)															
Clockwise = R															
Anticlockwise (not available for PFB10 and PFB20) = L															
Displacement zone (PVB models only)															
One side of center (pressure compensated models only) = S															
Both sides of center (Handwheel and lever controlled models only) = D															
Omit for PFB models.															
Flanged main ports															
FPVB45 and PVB90 models only = F															
Omit for P*B5 to 29 inclusive.															
Thru shaft option															
PVB5 to 29 only:															
Thru shaft (with side entry ports) = X															
Omit for PVB45 and PVB 90, or if not required															
Shaft type															
Metric, to DIN/ISO 3019, Part 2 and VDMA 24560, Part 1 = N															
SAE models P*B5 to 15 only. = Y															
Omit for 20 thru 90 models															
Pump design number															
PFB20 = 10															
PFB10 = 30															
PVB10 and PVB15 = 31															
all other models = 20															
Foot bracket mounting kits															
Order separately if required. Kits include pump fixing bolts.															

Special design options

For PFB5 and PVB5 to 29 only:
 S.30 = Extra drain port to permit vertical "shaft-up" installation.
 For PVB5 to PVB29 pressure compensated models only:
 GE1 = 10% minimum displacement. when pressure compensated.
 For all models:
 GEVS = Pressure setting knob with key lock.
 Omit when not required.

Control design number (PVB only)

10 = "H" and "M" controls; also "C" control (PVB90)
 11 = "C" and "CM" controls.
 12 = "CVP" control.
 20 = "CG" control.

Control location

PVB5 to 15 models with "H", "M" or "V" controls only:
 L = Left hand, when viewed at shaft end.
 Omit for right hand, or when a pressure compensator is fitted

Pressure compensator variations

PVB5 to 29 models only:
 G = Remotely adjustable pressure setting.
 Omit when not required

Maximum displacement adjustment*

PVB5 to 29 models only:
 C = "C" or "CM" compensator, and with Maximum displacement adjustment
 Omit when not required.

Displacement control options

PVB models only.
 C = Pressure compensator.
 Pressure adjustment range:
 PVB90: 19 to 210 bar
 All other models: 17 to 210 bar
 Also used as prefix for item*
 Note. For PVB6, 15 and 29 models, the user must ensure that the max. pressure setting never exceeds 140 or 100 bar dependent on the type of fluid being used.
 CM = Pressure compensator. Option for all sizes except PVB90.
 Pressure adjustment range:
 PVB45: 10 to 100 bar
 All other sizes: (17 to 100 bar)
 CVP = Load sensing with pressure limiter.
 PVB5 to 15 only:
 H = Handwheel control
 M = Lever control
 V = No control (As for "M" type but without lever.)
 Omit for PFB models.

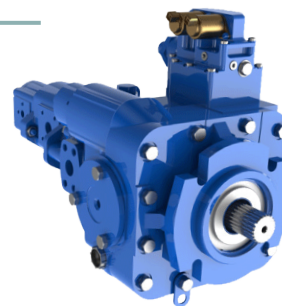
Variable displacement bent axis piston pump

H-Series

Variable Displacement Axial piston pump in Swashplate design for closed circuit

Displacement: 33 to 110 cc/rev

Max Pressure: 450Bar



Introduction

Variable displacement axial-piston pumps in swashplate design are used for hydraulic actuators combined of pump and motor, operating in closed circuit systems. They are used for driving mobile machines like harvesters or rotating technological equipment like transit mixer drums etc.

The H-series axial-piston pumps are equipped with a gear or gerotor type charge pump. The design with a gerotor type charge pump allows to tandem the axial-piston pump with gear pumps. To tandem with other H and S series axial-piston pumps look for the H+ series with a working volume of 71 cm³, 90 cm³ and 112 cm³.

Control valve modular connection to PVH pump with the gear type charge pump allows the MH and ER control systems. The axial piston pump with gerotor type charge pump allows the MH and ER control systems, and, in case of charge pump pressure relief valve setting is from 22.5 bar to 24.5 bar, the HD and EP control systems are also connected.

MH – hydromechanical proportional control system. Due to the control system the swashplate is held in the required position, thus maintaining amount of the flow at the preset level.

ER – electrohydraulic 3 positioned control system. Used for drive operating to the system turn on-turn off-turn on. Can be supplied with maximum displacement control.

HD – hydraulic proportional control system. The swashplate is held in the required position, due to the hydraulic indicators. Used on the machines where the pump flow requires continuous adjustment to the working loads challenged on the suspended or mounted equipment.

EP – electrical proportional control system. Due to current intensity on two proportional magnets displacement is changed steplessly.

Technical Data

Displacement code		33	52	71	90	112
Displacement max	cm³	33.3	51.6	69.8	89.8	110.8
Maximum flow	l/min	113.5	204	275.8	314.5	391.6
Maximum pressure in high pressure line	bar	450				
Rated pressure in high pressure line	bar	420				
Maximum case pressure	bar	2.5				
Maximum speed	min ⁻¹	3590	4160		3720	
Minimum speed	min ⁻¹	500				
Rated speed	min ⁻¹	2500				
Maximum swashplate angle	Degr	±18				
Rated power	kW	60	93	125.9	160.5	199.8
Weight (without fluid)	Kg	51	61	69	85	85

Variable displacement bent axis piston pump

Ordering code

		PV	H		/										
Variable displacement axial piston pumps		PV													
Series		H													
Displacement (cm ³)															
33.3	33														
51.6	52														
69.8	71														
89.0	90														
110.8	112														
Control Options		33	52	71	90	112	Code								
Hydromechanical		•	•	•	•	•	MH								
Hydraulic proportional		–	–	•	•	•	HD								
Electrohydraulic for 3 positions ¹⁾		•	•	•	•	•	ER								
Electronic proportional		–	–	•	•	•	EP								
Controls		33	52	71	90	112	Code								
No pressure limit		–	•	•	•	•	1								
With pressure limit		–	•	•	•	•	2								
Voltage of the magnet (EP only)		33	52	71	90	112	Code								
U = 12V		–	•	•	•	•	A								
U = 24V		–	•	•	•	•	B								
Rotation							Code								
Clockwise							R								
Anticlockwise							L								
Shaft Seal		33	52	71	90	112	Code								
Face seal		•	•	•	•	•	1								
Lip seal		•	•	•	•	•	2								
Drive shaft		33	52	71	90	112	Code								
14 tooth, 12/24 pitch, 31.22mm		•	•	•	•	•	A								
19 tooth, 16/32 pitch, 31.73mm		•	•	•	•	•	B								
21 tooth, 16/32 pitch, 34.5mm		•	•	•	•	•	C								
23 tooth, 16/32 pitch, 37.68mm		–	–	–	•	•	D								
cone 1:8, SAE J501, 35mm		•	•	•	•	•	E								
20 tooth, 16/32 pitch, 33mm		•	•	•	•	•	F								
27 tooth, 16/32 pitch, 44.03mm		–	–	–	•	•	G								
Straight Ø34.93mm		•	•	•	–	–	K								
Straight Ø44.45mm		–	–	–	•	•	L								
Charge pump relief valve setting		33	52	71	90	112	Code								
13.2 bar - 14.4 bar		•	•	•	•	•	0								
17.6 bar - 19.6 bar		•	•	•	•	•	1								
22.5 bar - 24.5 bar		–	–	•	•	•	2								

¹⁾ Control valve with electro control is not supplied

Notes: • Standard • Optional – Not Available

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Tandem mounting	33	52	71	90	112	Code
SAE J744c A (Ø82.55mm, 9 tooth) m=1.5875	–	–	○	●	●	1
SAE J744c AA (Ø82.55 mm, 11 tooth) m=1.5875	–	–	○	●	●	2
SAE J744c A (Ø82.55 mm, D-6x13x16H9x3,5D10)	–	–	○	●	●	3
SAE J744c B (Ø101.6 mm, 13 tooth) m=1.5875	–	–	○	●	●	4
SAE J744c B (Ø101.6 mm, 14 tooth) m=2.1166	–	–	○	●	●	5
SAE J744c B (Ø101.6 mm, D-6x18x22H9x5D9)	–	–	○	●	●	6

Variable displacement bent axis piston pump



Ordering code

Filtration	33	52	71	90	112	Code
Filter mounted on charge pump suction line	•	•	•	•	•	A
Filter mounted on charge pump pressure line	–	–	•	•	•	B

Control orifice	33	52	71	90	112	Code
No orifice	•	•	•	•	•	A
Ø0.76 mm	•	•	•	•	•	B
Ø1.05 mm	•	•	•	•	•	A
Ø1.6 mm	•	•	•	•	•	B

Climatic version	Code
Temperate	N
Tropical	T

Special features*	Code
Zero position indicator	1
Built-in bypass valve	2
Displacement limit	3
Drain port size 1 1/16-12UN -2B	4
Shaft outlet 76.2 mm	5

Ordering example

- **PV H 90 / MH 1 R 2 D 2 A C 1 E1 3 A B N 3**
 - PV** - Variable Displacement Axial Piston Pump
 - H** - Series H
 - 90** - Displacement 89 Ccm
 - MH** - Control System (hydromechanical)
 - 1** - Controls (no Pressure Limit)
 - R** - Rotation: Clockwise
 - 2** - Shaft Seal (lip Seal)
 - D** - Shaft Option (23 Teeth, 16/32 Pitch, (37.68mm))
 - 2** - Charge Pump Relief Valve Setting 22.5 Bar To 24.5 Bar
 - A** - Relief Valve Option (without Relief Valve)
 - C** - Main Ports A&b (sae J518c 3/8 Inches For 350 Bar)
 - 1** - Control Valve (standard)
 - E1** - Charge Pump 19 Ccm - Gerotor Type
 - 3** - Tandem Option (SAE J744c A (82.55 D-6x13x16h9x3.5d10))
 - A** - Filtration (fs Finlter In Pilot Pump Suction Line)
 - B** - Orifice Diameter (ø0.76 Mm)
 - N** - Climatic Version
 - 3** - Special Features

HYDRAULIC PISTON PUMPS

VDP SERIES | VARIABLE DISPLACEMENT PUMPS

40 cc/rot (2.4 in³/rot) to

109 cc/rot (6.7 in³/rot)

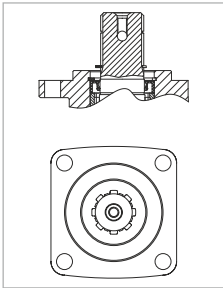
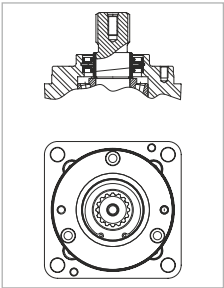
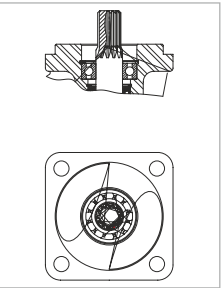
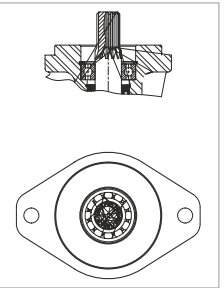
Efficiency and robustness



Adaptable pressure
Fast Reaction
Flow Reset
High Pressure
Long Service life
Low Noise
Compact Design
High Efficiency
Efficient Cooling



With ABER's VDP, it is possible to precisely regulate the displacement, in order to output just enough power for the required movements. Designed with care for the needs and applications in the hydraulic trucks industry, it can be used for a wide range of applications.

DISPLACEMENT	FLANGE AND AXLE OPTIONS			
	DIN 5462 ISO 7653 (EN)	DIN 5480 ISO 3019-2 (IA)	SAE C 4 BOLTS (C4)	SAE C 2 BOLTS (C2)
cc/rot (in ³ /rot)				
UP TO 400 bar (5800 psi)				
40 (2.4)	VDP40_	VDP40_IA_	VDP40_C4_	VDP40_C2_
60 (3.7)	VDP60_	VDP60_IA_	VDP60_C4_	VDP60_C2_
76 (4.6)	VDP76_	VDP76_IA_	VDP76_C4_	VDP76_C2_
92 (5.6)	VDP92_	VDP92_IA_	VDP92_C4_	VDP92_C2_
109 (6.7)	VDP109_	VDP109_IA_	VDP109_C4_	VDP109_C2_
				

HYDRAULIC PISTON PUMPS BI SERIES | BENT AXIS PISTON PUMPS

17 cc/rot (1.0 in³/rot) to
172 cc/rot (10.5 in³/rot)

Efficiency and Lightness



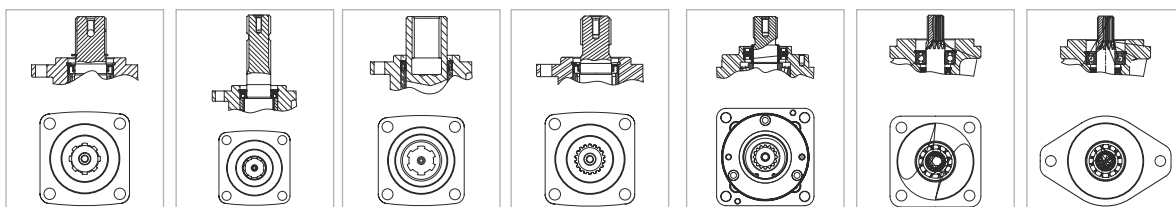
Maximum Efficiency
Less Pulse
Switchable Sense of Rotation
Reversible



BI Series allow a change in the rotation way in an easy and safe way for all the pump components.

When at work, these pumps show an excellent performance, with very low noise and a continuous flow of the oil due to the type of pistons of which is built (5 pistons on BI_M, 7 pistons on BI_M7 and BI_P7 and 9 pistons on BI_H9). These pumps are equipped with seals that bear extreme environmental temperatures.

DISPLACEMENT cc/rot (in ³ /rot)	FLANGE AND AXLE OPTIONS						
	DIN 5462 ISO 7853 (EN)	DIN 9611 AGRICULTURAL (DA)	DIN 9611 INTERIOR (DI)	DIN 5482 MULTIPLIER (DM)	DIN 5480 ISO 3019-2 (IA1)	SAE C 4 BOLTS (B4/C4)	SAE C 2 BOLTS (B2/C2)
UP TO 350 bar (5000 psi)							
17 (1.0)	BI17M	BI17MDA	-	BI17MDM	-	BI17M5B4	BI17M5B2
26 (1.6)	BI25M	BI25MDA	-	BI25MDM	-	BI25M5B4	BI25M5B2
32 (2.0)	BI30M	BI30MDA	-	BI30MDM	-	BI30M5B4	BI30M5B2
42 (2.6)	BI40M	BI40MDA	-	BI40MDM	-	BI40M5B4	BI40M5B2
50 (3.1)	BI50M	BI50MDA	-	BI50MDM	BI50M5IA1	BI50M5B4	BI50M5B2
60 (3.7)	BI60M7	BI60M7DA	-	BI60M7DM	BI60M7IA1	BI60M7B4	BI60M7B2
80 (4.9)	BI80P7	BI80P7DA	BI80P7DI	-	BI80P7IA1	BI80P7C4	BI80P7C2
108 (6.6)	BI110P7	BI110P7DA	BI110P7DI	-	BI110P7IA1	BI110P7C4	BI110P7C2
142 (8.7)	BI140H9	BI140H9DA	-	-	BI140H9IA1	BI140H9C4	BI140H9C2
156 (9.5)	BI160H9	BI160H9DA	-	-	BI160H9IA1	BI160H9C4	BI160H9C2
UP TO 300 bar (4300 psi)							
81 (4.9)	BI80M7	BI80M7DA	-	BI80M7DM	BI80M7IA1	BI80M7B4	BI80M7B2
126 (7.7)	BI125P7	BI125P7DA	BI125P7DI	-	-	BI125P7C4	BI125P7C2
172 (10.5)	BI170H9	BI170H9DA	-	-	-	BI170H9C4	BI170H9C2
UP TO 250 bar (3600 psi)							
136 (8.3)	BI135P7	BI135P7DA	BI135P7DI	-	BI135P7IA1	BI135P7C4	BI135P7C2



HYDRAULIC PISTON PUMPS BID SERIES | DOUBLE BENT AXIS PISTON PUMPS

38+37 cc/rot (2.3+2.3 in³/rot) to
70+66 cc/rot (4.3+4.0 in³/rot)

Two Independent Oil Outlets
Two Independent Pressure Lines

Bent Axis Piston Pump with two outlets, which work on independent pressure and on independent circuits, when use to serve two independent oil circuits.



**NEW
IMPROVEMENT**



**Two Oil Outlets
Maximum Efficiency
Switchable Sense of Rotation
Reversible**

**The first and only, double outlet
pump in the world, with switchable
sense of rotation.**

DISPLACEMENT	FLANGE AND AXLE OPTIONS				
	DIN 5462 ISO 7653 (EN)	DIN 9611 AGRICULTURAL (DA)	DIN 9611 INTERIOR (DI)	SAE C 4 BOLTS (B4/C4)	SAE C 2 BOLTS (B2/C2)
UP TO 350 bar (5000 psi)					
57 + 28 (3.5 + 1.7)	BID57+28P	BID57+28PDA	BID57+28PDI	BID57+28PB4	BID57+28PB2
38 + 37 (2.3 + 2.3)	BID40+40P	BID40+40PDA	BID40+40PDI	BID40+40PB4	BID40+40PB2
80 + 38 (4.9 + 2.3)	BID80+40H	BID80+40HDA	BID80+40HDI	BID80+40HC4	BID80+40HC2
58 + 60 (3.5 + 3.7)	BID55+55H	BID55+55HDA	BID55+55HDI	BID55+55HC4	BID55+55HC2
UP TO 300 bar (4300 psi)					
70 + 66 (4.3 + 4.0)	BID70+70H	BID70+70HDA	BID70+70HDI	BID70+70HC4	BID70+70HC2

HYDRAULIC PISTON PUMPS BIF SERIES | IRON CAST BENT AXIS PISTON PUMPS

17 cc/rot (1.0 in³/rot) to
81 cc/rot (4.9 in³/rot)

Efficiency and Compact Design



Iron cast BIF Series pumps were designed to be very compact. The BIF series configuration, gives particular advantage on mobile applications such as trucks with high collision probability between the rear axle truck transmission and the hydraulic pump.

When at work, these pumps show an excellent performance, with very low noise and a continuous flow of the oil due to the type of pistons of which is built (5 pistons on BI_M, 7 pistons on BI_M7). These pumps are equipped with seals that bear extreme environmental temperatures.

BIF Series allows a change in the rotation way with an easy and safe procedure for all the pump components.

i BIF NEW SERIES

**Higher Pressure
Less Pulse
Maximum Efficiency
Compact Design
Fits on ZF Astronic Gearbox Transmissions**

DISPLACEMENT	FLANGE AND AXLE OPTIONS					
	DIN 5462 ISO 7653 (EN)	DIN 9611 AGRICULTURAL (DA)	DIN 5482 MULTIPLIER (DM)	DIN 5480 ISO 3819-2 (IA1)	SAE B1 4 BOLTS (B4)	SAE B2 2 BOLTS (B2)
cc/rot (in ³ /rot)						
UP TO 400 bar (5800 psi)						
17 (1.0)	BIF17M	BIF17MDA	BIF17MDM	-	BIF17M5B4	BIF17M5B2
26 (1.6)	BIF25M	BIF25MDA	BIF25MDM	-	BIF25M5B4	BIF25M5B2
32 (2.0)	BIF30M	BIF30MDA	BIF30MDM	-	BIF30M5B4	BIF30M5B2
42 (2.6)	BIF40M	BIF40MDA	BIF40MDM	-	BIF40M5B4	BIF40M5B2
50 (3.1)	BIF50M	BIF50MDA	BIF50MDM	BIF50M5IA1	BIF50M5B4	BIF50M5B2
60 (3.7)	BIF60M7	BIF60M7 DA	BIF60M7DM	BIF60M7IA1	BIF60M7B4	BIF60M7B2
UP TO 350 bar (5000 psi)						
81 (4.9)	BIF80M7	BIF80M7DA	BIF80M7DM	BIF80M7IA1	BIF80M7B4	BIF80M7B2

HYDRAULIC PISTON PUMPS BH SERIES | STRAIGHT PISTON PUMPS

14 cc/rot (0.9 in³/rot) to
110 cc/rot (6.7 in³/rot)



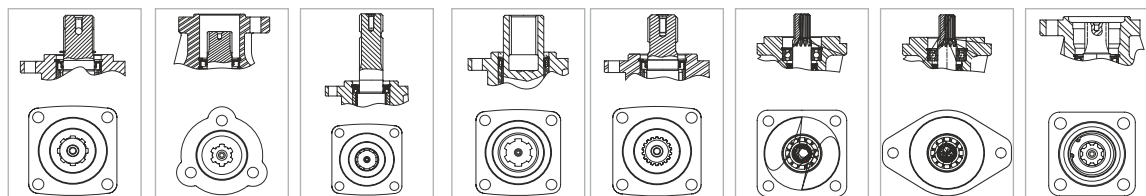
i BH SERIES

Maximum Efficiency
Robustness
Great Performance
Low Noise
Continuous Flow
Bidirectional

ABER BH Series are very robust. They are equipped with radial and axial bearings. To manufacture this pumps, ABER uses high resistant material in strategic points.

When at work these pumps show a good performance, with very low noise and a continuous flow of the oil due to the type of pistons of which is built.

DISPLACEMENT cc/rot (in ³ /rot)	FLANGE AND AXLE OPTIONS							
	DIN 5462 ISO 7653 (EN)	DIN 5463 UNI (UNI)	DIN 9611 AGRICULTURAL (DA)	DIN 9611 INTERIOR (DI)	DIN 5482 MULTIPLIER (DM)	SAE 4 BOLTS (B4/C4)	SAE 2 BOLTS (B2/C2)	8 TEETH 12DP (DB)
UP TO 400 bar (5800 psi)								
52 (3.2)	BHS21716EN	BHS21716UNI	BHS21716DA	-	BHS21716DM	BHS21716B4	BHS21716B2	-
60 (3.7)	BHV21816EN	BHV21816UNI	BHV21816DA	-	BHV21816DM	BHV21816B4	BHV21816B2	-
80 (4.9)	BHV211113EN	BHV211113UNI	BHV211113DA	BHV211113DI	-	BHV211113C4	BHV211113C2	-
P TO 350 bar (5000 psi)								
14 (0.9)	BHV21313EN	BHV21313UNI	BHV21313DA	-	-	BHV21313B4	BHV21313B2	BHV21313DB
P TO 320 bar (4600 psi)								
19 (1.2)	BHV21316EN	BHV21316UNI	BHV21316DA	-	BHV21316DM	BHV21316B4	BHV21316B2	BHV21316DB
25 (1.5)	BHV21416EN	BHV21416UNI	BHV21416DA	-	BHV21416DM	BHV21416B4	BHV21416B2	BHV21416DB
32 (2.0)	BHV21516EN	BHV21516UNI	BHV21516DA	-	BHV21516DM	BHV21516B4	BHV21516B2	BHV21516DB
40 (2.4)	BHV21616EN	BHV21616UNI	BHV21616DA	-	BHV21616DM	BHV21616B4	BHV21616B2	BHV21616DB
45 (2.7)	BHV21716EN	BHV21716UNI	BHV21716DA	-	BHV21716DM	BHV21716B4	BHV21716B2	BHV21716DB
50 (3.1)	BHT25519EN	BHT25519UNI	BHT25519DA	-	-	BHT25519B4	BHT25519B2	-
60 (3.7)	BHT25619EN	BHT25619UNI	BHT25619DA	-	-	BHT25619B4	BHT25619B2	BHT25619DB
80 (4.9)	BHT22819EN	BHT22819UNI	BHT22819DA	BHT22819DI	-	BHT22819B4	BHT22819B2	-
86 (5.2)	BHV25913EN	BHV25913UNI	BHV25913DA	BHV25913DI	-	BHV25913B4	BHV25913B2	-
TO 250 bar (3600 psi)								
32 (2.0)	BHZ25319EN	BHZ25319UNI	BHZ25319DA	-	-	BHZ25319B4	BHZ25319B2	BHZ25319DB
40 (2.4)	BHZ25419EN	BHZ25419UNI	BHZ25419DA	-	-	BHZ25419B4	BHZ25419B2	BHZ25419DB
50 (3.1)	BHZ25519EN	BHZ25519UNI	BHZ25519DA	-	-	BHZ25519B4	BHZ25519B2	BHZ25519DB
60 (3.7)	BHZ25619EN	BHZ25619UNI	BHZ25619DA	-	-	BHZ25619B4	BHZ25619B2	BHZ25619DB
70 (4.3)	BHZ25716EN	BHZ25716UNI	BHZ25716DA	-	-	BHZ25716B4	BHZ25716B2	-
80 (4.9)	BHZ25719EN	BHZ25719UNI	BHZ25719DA	-	-	BHZ25719B4	BHZ25719B2	-
110 (6.7)	BHZ25916EN	BHZ25916UNI	BHZ25916DA	BHZ25916DI	-	BHZ25916B4	BHZ25916B2	-



BHD SERIES | DOUBLE STRAIGHT PISTON PUMPS

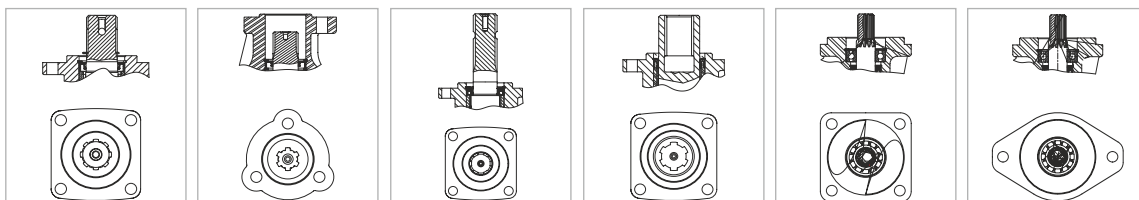
20+20 cc/rot (1.2+1.2 in³/rot) to
83+42 cc/rot (5.1+2.6 in³/rot)

Two Independent Oil Outlets
Two Independent Pressure Lines

Straight Piston Pump with two outlets, which work on independent pressure and on independent circuits, when use to serve two independent oil circuits.

i BHD SERIES
Two Oil Outlets
Robustness
Bidirectional

DISPLACEMENT cc/rot (in ³ /rot)	FLANGE AND AXLE OPTIONS					
	DIN 5462 ISO 7653 (EN)	DIN 5463 UNI (UNI)	DIN 9611 AGRICULTURAL (DA)	DIN 9611 INTERIOR (DI)	SAE 4 BOLTS (B4/C4)	SAE 2 BOLTS (B2/C2)
UP TO 400 bar (5800 psi)						
45 + 45 (2.7 + 2.7)	BHD45+45EN	BHD45+45UNI	BHD45+45DA	BHD45+45DI	BHD45+45C4	BHD45+45C2
65 + 22 (4.0 + 1.3)	BHD65+22EN	BHD65+22UNI	BHD65+22DA	BHD65+22DI	BHD65+22C4	BHD65+22C2
UP TO 300 bar (4300 psi)						
20 + 20 (1.2 + 1.2)	BHD20+20EN	BHD20+20UNI	BHD20+20DA	-	BHD20+20B4	BHD20+20B2
25 + 25 (1.5 + 1.5)	BHD25+25EN	BHD25+25UNI	BHD25+25DA	-	BHD25+25B4	BHD25+25B2
30 + 30 (1.8 + 1.8)	BHD30+30EN	BHD30+30UNI	BHD30+30DA	-	BHD30+30B4	BHD30+30B2
40 + 40 (2.4 + 2.4)	BHD40+40EN	BHD40+40UNI	BHD40+40DA	BHD40+40DI	BHD40+40B4	BHD40+40B2
60 + 30 (3.7 + 1.8)	BHD60+30EN	BHD60+30UNI	BHD60+30DA	BHD60+30DI	BHD60+30B4	BHD60+30B2
80 + 21 (4.9 + 1.3)	BHD80+21EN	BHD80+21UNI	BHD80+21DA	BHD80+21DI	BHD80+21C4	BHD80+21C2
53 + 53 (3.2 + 3.2)	BHD53+53EN	BHD53+53UNI	BHD53+53DA	BHD53+53DI	BHD53+53C4	BHD53+53C2
80 + 27 (4.9 + 1.6)	BHD80+27EN	BHD80+27UNI	BHD80+27DA	BHD80+27DI	BHD80+27C4	BHD80+27C2
UP TO 250 bar (3600 psi)						
50 + 50 (3.1 + 3.1)	BHD50+50EN	BHD50+50UNI	BHD50+50DA	BHD50+50DI	BHD50+50B4	BHD50+50B2
72 + 38 (4.4 + 2.3)	BHD72+38EN	BHD72+38UNI	BHD72+38DA	BHD72+38DI	BHD72+38B4	BHD72+38B2
83 + 42 (5.1 + 2.6)	BHD83+42EN	BHD83+42UNI	BHD83+42DA	BHD83+42DI	BHD83+42B4	BHD83+42B2



A2FM

Fixed Displacement Motor
open and closed circuits
Sizes 16...125
Nom. Pressure up to 400 bar
Peak Pressure up to 450 bar



Features

- Fixed displacement motor A2FM of axial piston, bent axis design, suitable for hydrostatic drives in open and closed circuits.
- Use in mobile and industrial applications
- Output speed is proportional to input flow and inversely proportional to displacement
- Drive torque increases with the pressure drop across the unit
- Careful selection of the displacements offered, permit sizes to be matched to practically every application
- Favorable power / weight ratio
- Compact design
- Optimum efficiency
- Economical conception
- One piece pistons with piston ring

Technical data

Size	16	23	28	32	45	56	63	80	90	107	125
Displacement V_g cm^3	16	22.9	28.1	32	45.6	56.1	63	80.4	90	105.7	125
Max. Speed n_{max} min^{-1}	8000	6300	6300	6300	5600	5000	5000	4500	4500	4000	4000
n_{max} intermit. min^{-1}	8800	6900	6900	6900	6200	5500	5500	5000	5000	4400	4400
Max. flow n_{max} Q_v max L/min	128	144	176	201	255	280	315	360	405	427	500
Torque constants T_k Nm/bar	25	36	44.5	50.9	72.5	89	100	127	170	199	254
Torque at $\Delta p=350bar$ T Nm	88	126	156	178	254	312	350	445	501	595	697
$\Delta p=400bar$ T Nm	100	144	178	204	290	356	400	508	572	680	796
Case volume L	0.17	0.20	0.20	0.20	0.33	0.45	0.45	0.55	0.55	0.8	0.8
Moment of inertia about drive axis J kgm^2	0.0004	0.0012	0.0012	0.0012	0.0024	0.0042	0.0042	0.0072	0.0072	0.0116	0.0116
Weight (approx.) m Kg	5.4	9.5	9.5	9.5	13.5	18	18	23	23	32	32

Ordering code

Oblique axis design													= A2F	
Bearing Standard bearing (without symbol) ● ● ● ● ● ● ● ● ● ● ● ● High Life bearing — — — — — — — — — — — L														
Way of working motor													= M	
Displacement V_g max, unit cm^3													= 16, 23, 28, 32, 45, 56, 63, 80, 90, 107, 125	
Series													= 6	
Index													= 1	
Rotation (View from shaft end) Bi-directional													= W	
Seals NBR (nitrile butadiene rubber), FKM rotary shaft seal (Viton) FKM (Fluorocarbon)													= N = V	
Transmission shaft Splined shaft according to DIN 5480 Keyed shaft according to DIN 6885													16 23 28 32 45 56 63 80 90 107 125 ● ● ● ● ● ● ● ● ● ● ● ● — ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● — ● ● ● — — ● ● — ● ● — ● ● ● — — — —	
Mounting flange 4 holes - ISO 3019-2 8 holes- ISO 3019-2													16 23 28 32 45 56 63 80 90 107 125 ● ● ● ● ● ● ● ● ● ● ● ● — — — — — — — — — — —	
Work Line Port SAE flange ports, A/B SAE flange ports, A/B Threaded ports, A/B in Threaded ports, A/B on opposite side and rear SAE flange ports, A/B													16 23 28 32 45 56 63 80 90 107 125 ● ● ● ● ● ● ● ● ● ● ● ● — — — — ● ● ● — — — — — ● ● ● ● ● ● ● ● ● ● ● ● — ● — — ● ● ● ● ● ● ● ● ● ● ● ● — — — — ● — — — — — — without valve 0 Equipped with flush valve and fill valve 7	
Speed sensor without speed sensor Equipped with HDD speed sensor Equipped with DSA speed sensor													16 23 28 32 45 56 63 80 90 107 125 ● ● ● ● ● ● ● ● ● ● ● ● — ● ● ● ● ● ● ● ● ● ● ● ● — ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲ ▲	
Special model Standard model (unsigned) Special version of the slewing drive													= - = J	
Standard/Special Models Standard model (unsigned) Versions with different mounting forms, different from the standard special model													= - = Y = S	

Axial tapered bent axis piston pump

A6V

Axial tapered Piston bent axis design

For Open & Closed circuit

Size 107 & 125

Maximum pressure: 400 bar



Introduction

Variable displacement motor with axial piston rotary group of bent axis design, for hydrostatic drives in open and closed circuits. The motor is suitable for both mobile and industrial applications. The wide control range of the variable displacement motor allows it to meet the requirements of high speed and high torque. The flow is infinitely variable in the range $V_{gmax}/V_{gmin}=4.85$, the max. displacement is 125ml/r. Output speed is proportional to flow and inversely proportional to displacement. The output torque increases with the pressure drop between the high and low pressure sides and with increasing displacement.

Features

- Wide control range for hydrostatic drives
- Various control and regulating devices
- Cost saving through elimination of gearbox and possibility of using smaller motors.
- Compact, robust bearing system with long service life
- 20% Comparing with anti type product, the measure of axes' direction has shortened 20%
- The max. and the min. displacement are variable design
- Low unit power
- Good starting characteristics
- Low inertia

Specifications

Size		107	125
Control Device	Hydraulic control, pilot pressure related	●	●
	Automatic control, high pressure related	●	●
	Manual control	●	●
Displacement	V_{gmax} ml/r	107	125
	V_{gmin} ml/r	30.8	21.8
Max. permissible. Swept volume Q_{gmax} L/min		342	400
Max.speeds (at Q_{max})	n_{max} at V_{gmax} r/min	3200	3200
	n_{max} at $V_g < V_{gmax}$ r/min	4200	4200
Torque constants	M_x at V_{gmax} Nm/MPa	1.70	1.70
	M_x at V_{gmin} Nm/MPa	0.35	0.34
Max.torque (at $p=350$ bar)	M_{max} at V_{gmax} Nm	594	696
	M_{max} at V_{gmin} Nm	171	201
(35MPa Q_{max})Max.output power(at 35MPa and Q_{max}) KW		187	199
Moment Kgm ²		0.0127	0.0127

[illegible]



ITM Series

Radial Piston Motors
Max Pressure: 160, 210 bar



Introduction

ITM/ITMS Series hydraulic motor is a traditional radial piston motor what we produce for medium-pressure application. With advanced processing center, inspection machines and assembly technology, it has unimpeachable performance of same kind.

Features

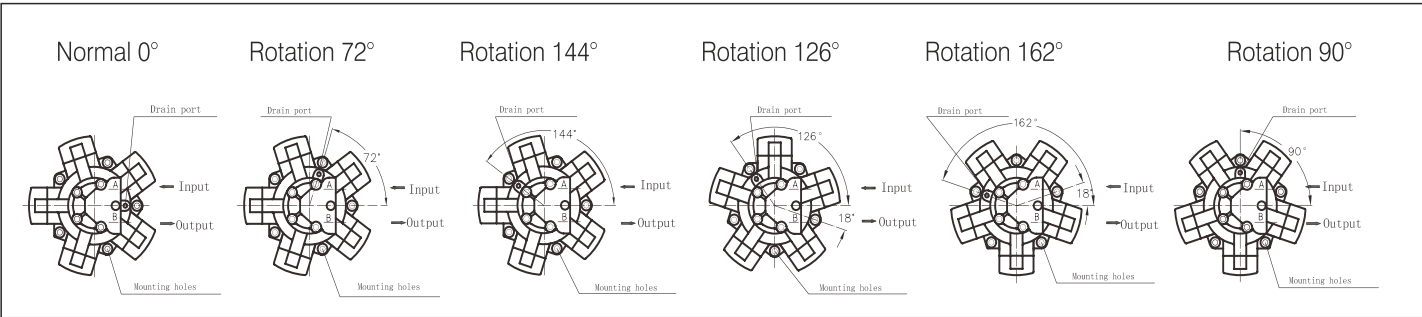
- Low noise due to its crankshaft & com-rod structure and cylinder & piston framework of low vibration frequency;
- Steady performance at low speed; high starting torque;
- Good reliability and less leakage due to the flat compensation distributor;
- Enable reversible rotation and certain external radial & axial force on output shaft.

Ordering code

1	2	3	4	5	6	7

1. Model-ITM
2. Series
3. Displacement (ml/r)
4. Output Shaft
No symbol = standard rectangle spline shaft (the center is up to outside diameter)
B = Parallel key shaft
D = Installation dimensions same as 1 JMD series motor (KunSan HYD element plant)
I = Female spline
GM, SL = the installation dimensions same as M series, L series of SAI ITALY.
5. Distributors
If you have special request of dimensions, please state it in order, or we will treat it as our standard. (distribution option refer page next)
6. O port thread
For special thread, please state in your order , or we will treat it as our standard, (thread options , refer page next)
7. I/O port direction
For I/O port direction, please refer page next.

Port Directions





Distributor

Type	Standard Thread	Thread Options	Product	Dimensions
D31	G3/4"	G1" Z3/4" Z1" ZG3/4" ZG1" M27x2 M33x2	ITM01 ITM02 ITM03 ITM06	
D40	G1"	G3/4" Z3/4" Z1" ZG3/4" ZG1" M27x2 M33x2	ITM08 ITM11 ITMS03 ITMS06	
D47	Ø 25	Thread With Spacer Z3/4" ZG3/4" G3/4" G1" Z1" ZG1" M27x2 M33x2	ITM11 ITM16 ITMS12 ITMS18	
D90	Ø 40	Thread With Spacer M33x2 M42x2 G1" ZG1" Z1" Pipe jacks above Ø30 and below Ø60	ITM16 ITM31 ITM70 ITM100 ITMS30 ITMS50 ITMS70 ITMS100	

Technical Specifications

TYPE	Theory Displacement	Pressure		Torque		Max.Speed	Rated Power	Weight
		Rated Pressure	Max. Pressure	Rated Torque	Unit Torque			
		MPa	MPa	N.m	N.m/MPa			
	ml/r					r/min	KW	Kg
ITM01-63	64	16	22	150	9	450	6	21
ITM01-80	78	16	20	183	11	420	6	
ITM01-100	96	16	20	225	14	350	7	
ITM01-125	126	16	20	295	18	320	8	
ITM01-160	159	14	20	326	23	280	8	
ITM02-100	113	16	22	264	17	350	8	28
ITM02-150	159	16	20	372	23	320	11	
ITM02-175	180	16	20	421	26	320	12	
ITM02-200	206	16	20	482	30	300	13	
ITM02-250	235	14	20	481	34	300	13	
ITM02-280	276	12	18	484	40	280	12	36
ITM03-175	181	16	22	424	26	350	13	
ITM03-200	201	16	20	470	29	320	13	
ITM03-250	254	16	20	594	37	300	16	
ITM03-300	289	14	20	592	42	280	15	
ITM03-350	340	12	18	597	50	250	13	58
ITM03-400	380	12	18	667	56	250	15	
ITM06-400	397	16	22	939	59	320	27	
ITM06-450	452	16	22	1069	67	320	30	
ITM06-500	491	16	22	1162	73	300	31	
ITM06-600	594	16	20	1405	88	280	35	72
ITM06-700	683	16	20	1616	101	250	36	
ITM06-750	754	14	18	1561	111	220	31	
ITM08-600	617	16	20	1444	90	280	36	
ITM08-700	710	16	20	1662	104	260	38	
ITM08-800	810	14	20	1659	118	260	38	95
ITM08-900	889	14	20	1821	130	220	36	
ITM08-1000	1000	12	18	1755	146	200	31	
ITM11-700	682	16	22	1596	101	280	40	
ITM11-800	782	16	22	1830	116	280	46	
ITM11-900	894	16	22	2092	132	280	52	170
ITM11-1000	981	16	20	2296	145	250	51	
ITM11-1100	1104	16	20	2584	163	250	57	
ITM11-1200	1234	14	20	2527	182	220	49	
ITM11-1300	1301	14	18	2664	192	200	47	
ITM16-1400	1413	16	22	3343	209	250	74	298
ITM16-1600	1648	16	22	3899	244	250	87	
ITM16-1800	1814	16	22	4292	268	220	84	
ITM16-2000	2034	14	20	4211	301	200	75	
ITM16-2400	2267	14	18	4693	335	180	75	
ITM31-2500	2553	18	25	6722	373	200	120	298
ITM31-2800	2683	18	25	7064	392	200	126	
ITM31-3000	3063	16	25	7169	448	180	115	
ITM31-3150	3218	16	25	7532	471	180	121	
ITM31-3500	3462	16	22	8103	506	160	115	
ITM31-4000	4152	16	20	9718	607	160	138	
ITM31-4500	4522	16	20	10584	661	160	151	
ITM31-5000	4828	14	20	9887	706	160	141	



ITMS

Radial cam ring hydraulic motor

Max pressure: 450 bar

First displacement: 172 to 4198 mL/r

Second displacement: 86 to 2099 mL/r



Introduction

ITMS series hydraulic motor integrates the advantage of ITM and STF series motor.

It is a new concept hydraulic motors with higher comprehensive performance.

Features

- Same structure as STF series as removed piston sleeve, Integrated body case and piston cylinder hole; featured with high power-mass ratio and technical performance;
- Applied hydrostatic oil film modality between ball-socket of piston and ball head of con rod to heighten its contact pressure ratio, working pressure and mechanical efficiency;
- Higher anti-impact and load performance due to its enhanced roller bearing;
- Longer service life due to special materials and advanced heat treatment in main transmitting parts;
- Same installation data as ITM series; an ideal replacement of ITM series in higher pressure & performance application.

Ordering code

1	2	3	4	5	6	7

1. Model- ITMS

2. Series

3. Displacement (mL/r)

4. Output shaft

Standard rectangle spline shaft (the center is up to outside diameter) = No symbol

Key shaft; footnote number means the installation dimension same as BM series motor or other bands = B (with flange)

Installation dimension same as 1 JMD series motor (KunSan HYD element plant) = D

Female spline (the center is up to inner diameter); foot note number means the installation dimension same as QJM series motor (with flange which produced by Ningbo hydraulic motor factory) = I

The installation dimension same as M series, L series of SAI ITALY, footnote number means different kinds of installation dimension = GM,SL

5. Distributors

If you have special request of dimensions, please state it in order, or we will treat it as our standard.

6. O port thread

For special thread, please state in your order, or we will treat it as our standard.

7. O port direction

Technical Specifications

TYPE	Theory Displacement	压力/Pressure		Torque		Max.Speed	Rated Power	Weight
		Rated Pressure	Max. Pressure	Rated Torque	Unit Torque			
	ml/r	MPa	MPa	N.m	N.m/MPa	r/min	KW	Kg
ITMS09-630	630	22	27.5	1983	90	280	41	95
ITMS09-800	779	22	27.5	2452	111	280	50	
ITMS09-900	904	20	25	2587	129	250	47	
ITMS09-1000	1038	18	22	2674	149	250	45	
ITMS09-1250	1240	16	20	2839	177	200	39	
ITMS18-1250	1248	22	27.5	3929	179	300	86	160
ITMS18-1400	1418	22	27.5	4464	203	280	92	
ITMS18-1600	1616	22	27.5	5087	231	250	93	
ITMS18-1800	1815	22	27.5	5714	260	220	92	
ITMS18-2000	2035	20	25	5824	291	200	85	
ITMS18-2400	2267	20	25	6488	324	180	86	
ITMS18-2500	2512	18	22	6470	359	165	73	
ITMS18-3000	2822	16	20	6461	404	150	66	210
ITMS30-2000	2041	22	27.5	6425	292	200	114	
ITMS30-2200	2237	22	27.5	7043	320	200	125	
ITMS30-2500	2551	22	27.5	8031	365	200	143	
ITMS30-2800	2813	20	25	8051	403	200	143	
ITMS30-3000	3029	20	25	8669	433	160	123	
ITMS30-3150	3159	20	25	9041	452	160	129	
ITMS30-3500	3467	18	22	8930	496	160	127	

CRM HA/HB

Cam Ring Piston Motors
Max Pressure: 315 Bar



Introduction

CRM-HA/HB series cam-ring piston hydraulic motor is what we design for high end application with advantage of hollow rotor, CRM motor can be mounted with brake, speed encoder and some special equipments mounted through the center of motor, according to the user's requirements. It shows its striking features of high pressure endurance, stability at low speed and high output torque in various inferior working conditions.

Features

- Strong anti-shock capability and stability;
- Stable variable switch and parking brake;
- Enable free running working condition;
- Multi-mounting options; hollow shaft design;
- Large output torque; wide speed range; directly replace combined devices of high speed motor and gearbox; compact structure;
- Stable performance at low speed;
- Higher mechanical and volumetric efficiency;
- Reversible rotation;
- High power-mass ratio;

Ordering code HA

CRM-HA Motor Model									
Type									
Specific Torque (Nm/bar)									
Mounting Alternatives, Shaft									
Shrink Disc Coupling									
Splines									
Others									
Multi disc brake or tandem kit									
Motor without brake or TA kit									
Motor prepared for brake or TA kit									
O Single Speed Motor									
Clockwise									
Counter clockwise									
Type of Seal									
Nitrile									
Viton									
Through Hole									
With through hole									
Without through hole									
Additional Items									
Without oil port T1 & F1									
With oil port T1 & F1									

Technical Specifications

TYPE	Displacement	Unit Torque	Rated Pressure	Max.Pressure	Rated Torque	Rated Speed	Max.Speed	Weight (Spline)	Weight (Shrink Disc Coupling)
	ml/r	N.m/bar	bar	bar	N.m	r/min	r/min	Kg	Kg
HA50-20	1,256	20	250	315	5,000	340	340	175	203
HA50-25	1,570	25	250	315	6,250	298	340		
HA50-32	2,010	32	250	315	8,000	238	340		
HA50-40	2,512	40	250	315	10,000	196	298		
HA50-50	3,140	50	250	315	12,500	170	238		
HA70-40	2,512	40	250	315	10,000	230	340	205	232
HA70-50	3,140	50	250	315	12,500	191	272		
HA70-60	3,771	60	250	315	15,000	166	234		
HA70-70	4,400	70	250	315	17,500	153	204		
HA100-40	2,512	40	250	315	10,000	332	340	265	310
HA100-50	3,140	50	250	315	12,500	272	340		
HA100-64	4,020	64	250	315	16,000	221	332		
HA100-80	5,024	80	250	315	20,000	187	264		
HA100-100	6,280	100	250	315	25,000	162	230		
HA140-80	5,024	80	250	315	20,000	208	289	305	347
HA140-100	6,280	100	250	315	25,000	174	234		
HA140-120	7,543	120	250	315	30,000	153	208		
HA140-140	8,800	140	250	315	35,000	145	187		
HA210-160	10,051	160	250	315	40,000	89	128	395	456
HA210-180	11,314	180	250	315	45,000	85	115		
HA210-210	13,200	210	250	315	52,500	72	98		
HA280-240	15,085	240	250	315	60000	78	104	485	546
HA280-280	17,600	280	250	315	70000	67	89		



Ordering code HB

CRM-HB Motor Model					
Type					
Specific Torque (Nm/bar)					
Mounting Alternatives, Shaft Shrink Disc Coupling Splines Others					
Through Hole With through hole Without through hole					
Type of Seal Nitrile Viton					

= C
 = S
 = O

 = H
 = O

 = N
 = V

Technical Specifications

TYPE	Displacement	Unit Torque	Rated Pressure	Max.Pressure	Rated Torque	Rated Speed	Max.Speed	Weight(Spline)	Weight (Shrink Disc Coupling)
	ml/r	N.m/bar	bar	bar	N.m	r/min	r/min	Kg	Kg
HB280-240	15,100	240	250	315	60,000	45	58	705	800
HB280-280	17,600	280	250	315	70,000	37	49		
HB400-240	15,100	240	250	315	60,000	80	106	1060	1160
HB400-280	17,600	280	250	315	70,000	62	89		
HB400-320	20,100	320	250	315	80,000	60	80		
HB400-360	22,600	360	250	315	90,000	50	70		
HB400-400	25,100	400	250	315	100,000	49	64		
HB560-440	27,600	440	250	315	110,000	42	55	1115	1290
HB560-480	30,200	480	250	315	120,000	41	53		
HB560-520	32,700	520	250	315	130,000	35	48		
HB560-560	35,200	560	250	315	140,000	34	45		
HB840-600	37,700	600	250	315	150,000	26	38	1445	1620
HB840-640	40,200	640	250	315	160,000	24	35		
HB840-680	42,700	680	250	315	170,000	23	34		
HB840-720	45,200	720	250	315	180,000	21	31		
HB840-760	47,800	760	250	315	190,000	20	29		
HB840-800	50,300	800	250	315	200,000	20	29		
HB840-840	52,800	840	250	315	210,000	18	27		

CRM-PS

Radial cam ring hydraulic motor

Max pressure: 450 bar

First displacement: 172 to 4198 mL/r

Second displacement: 86 to 2099 mL/r

Introduction

CRM-PS series LSHT radial cam-ring hydraulic motors are widely applied in deck, construction, mining machinery, cement equipments, heavy metallurgy, military industry and can be directly used in hydrostatic transmission units.

Ordering code

Motor type

CRM-PS02/CRM-PSE02

Displacement code

A= First pump B= Second pump

Type	code	A mL/r	B mL/r
CRM-PS02	8	172	86
	0	213	107
	1	235	118
	2	255	128
CRM-PSE02	0	332	166
	1	364	182
	2	398	199

Valving type

Displacement valving(1) = 1

Displacement valving(2) (Clockwise) = D

Displacement valving(2) (Couterclockwise)= G

Mounting options

Without mounting(1) = 4

With mounting(2) = 5

Distributor

SAE connection = A

BSPP connection = 3

Brake

Without brake(simple plate) = A02

With brake = F02

Without brake (reinforced plate) = R02



Additional Items

- 0 = With Options or Adaptations
- 1 = Fluorinated elastomer seals
- 3 = Brake environmental cover without plug
- 5 = Drainage (additional drain on valving systems)
- 6 = Industrial bearing support
- 8 = Predisposition for speed sensor
- B = Drain on the bearing support
- D = Special paint or no paint
- E = Reinforced sealing
- G = Special wheel rim mounting
- H = High efficiency
- J = Reinforced bearing stop
- K = Reinforced shaft
- M = High speed

- 1 = Without studs
- 2 = With studs + nuts
- 3 = With studs
- 4 = M threaded holes

Male shaft

- 5 = Male shaft DIN5480 splines
- 0 = Without drum brakes

- 0 = Without shaft
- 1 = 5xØ18, Ø140
- A = For male shaft bearing support

- 0 = Shaft options
- 1 = Without bearing support
- 2 = Without mounting
- 3 = Lug mounting



HYDRAULIC MOTORS & TRANSMISSION

Technical data

A= First pump B= Second pump

Type	Displacement Code	A	B	Theoretical Torque	Max.Power			Max.Speed	Max.Pressure
				A	A	B Preferred	B Non-Preferred	B	
		ml/r	ml/r	100bar N.m	KW	KW	KW	r/min	bar
CRM-PS02	8	172	86	273	18	12	9	390	450
	0	213	107	339				310	
	1	235	118	374				285	
	2	255	128	405				260	
CRM-PSE02	0	332	166	528	22	16.5	11	200	400
	1	364	182	579				182	
	2	398	199	633				165	
CRM-PS05	6	260	130	413	29	19	15	265	450
	8	376	188	598				250	
	0	468	234	744				240	
	1	514	257	817				220	
	2	560	280	890				200	
CRM-PSE05	8	530	265	843	29	19	15	200	400
	0	625	312.5	994				190	
	1	688	344	1094				175	
	2	750	375	1193				160	
	3	820	410	1304				145	
CRM-PS08	6	467	234	743	41	27	21	210	450
	8	627	314	997				210	
	9	702	351	1116				185	
	0	780	390	1240				170	
	1	857	429	1363				155	
	2	934	467	1485				140	
CRM-PSE08	0	1043	522	1658	41	27	21	130	400
	1	1146	573	1822				110	
	2	1248	624	1984				105	
CRM-PS11	7	730	365	1161	50	33	25	200	450
	8	837	418.5	1331				195	
	9	943	471.5	1499				190	
	0	1048	524	1666				185	
	1	1147	573.5	1824				180	
	2	1259	629.5	2002				170 175	
CRM-PSE11	9	1263	631.5	2008	50	33	25	170 190	400
	0	1404	702	2232				155 185	
	1	1536	768	2442				140 180	
	2	1687	843.5	2682				130 165	
CRM-PS18	6	1091	546	1735	70	47	35	170 170	450
	8	1395	698	2218				155 160	
	9	1571	786	2498				140 155	
	0	1747	874	2778				125 150	
	1	1911	956	3038				115 135	
	2	2099	1050	3337				100 125	
CRM-PSE18	0	2340	1170	3721	70	47	35	90 110	400
	1	2560	1280	4070				85 100	
	2	2812	1406	4471				75 90	
CRM-PS25	8	2004	1002	3186	90	60	45	145 145	450
	0	2498	1249	3972				137 137	
	1	2752	1376	4376				125 135	
	2	3006	1503	4780				115 130	
CRM-PS35	7	2439	1220	3878	110	73	55	140	450
	9	3143	1572	4997				140	
	0	3494	1747	5555				130	
	2	4198	2099	6675				110	



STFC

Hydraulic motor

Max pressure: 450 bar

Displacement: 988 to 4198 mL/r

Second displacement: 86 to 2099 mL/r



Introduction

STFC series hydraulic motor is the achievement of our year's experience of hydrostatic balance technology. It features with higher intensity of casing and larger carrying capacity of internal dynamic components. Reduced internal friction, heat and all negative effects are realized by hydrostatic balance technology.

- The hydrostatic balance built between the piston, con rod and eccentric sets reduces the friction between con-rod and eccentric sets, and also reduce the lateral friction on pistons and contact pressure on ball the socket thus to reduce the friction loss while on load with above STFC series motor features with high mechanical efficiency and starting torque (The mechanical efficiency while starting is up to 90%);
- Hydrostatic balance shaft distributor prevents the shaft from tilting, thus to get excellent sealing, less leakage and
 - continuous running under high pressure (Max. pressure reaches to 290 bar);
 - Special material and structure of seals reduce the leakage and improve the volumetric efficiency;
 - Special materials and advanced treatment on main driving parts prolong the overall service life;
 - Ideal replacement of STAFFA motor with interchangeable mounting and performance.

STFC series motor is widely applied in all kinds of hydraulic transmission systems, such as plastic injection molding machines, deck machines construction machinery hoist, transport vehicle, heavy metallurgical machinery, petroleum& Mining machinery, light industrial equipment drilling machinery and so on.

Ordering code

Model- STFC(HD) STFC- Standard Motor STFCHD- Heavy Duty Motor					
Type					
Nominal Displacement					
Shaft Options P- Parallel keyed shaft T- Taper keyed shaft S- Spline shaft Q- Female Spline shaft					
Distributors					
Others					



HYDRAULIC MOTORS & TRANSMISSION

Technical Specifications

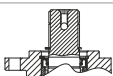
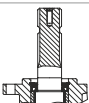
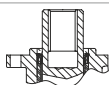
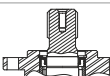
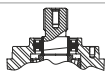
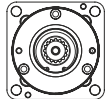
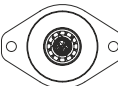
TYPE	Theory Displacement	压力/Pressure		Torque		Max. Speed	Rated Power	Weight
		Rated Pressure	Max. Pressure	Rated Torque	Unit Torque			
	ml/r	MPa	MPa	N.m	N.m/MPa	r/min	KW	Kg
STFC080-1000	988	23	29	3324	145	300	90	144
STFC080-1100	1088	23	29	3661	159	300	90	
STFC080-1250	1237	23	29	4162	181	280	90	
STFC080-1400	1385	23	29	4660	203	260	100	
STFC100-1600	1630	23	29	5484	238	240	100	144
STFC125-1400	1459	23	29	4909	213	300	95	235
STFC125-1600	1621	23	29	5454	237	270	95	
STFC125-1800	1864	23	29	6271	273	235	95	
STFC125-2000	2050	23	29	6820	297	220	95	
STFC200-2400	2432	23	29	8182	356	220	120	285
STFC200-2800	2757	23	29	9276	403	195	120	
STFC200-3100	3080	23	29	10362	451	175	120	
STFC270-3300	3291	23	29	11072	481	160	130	420
STFC270-3600	3575	23	29	12028	523	145	130	
STFC270-4000	3973	23	29	13367	581	130	130	
STFC270-4300	4313	23	29	14511	631	120	130	
STFC325-4500	4538	23	29	15268	664	115	130	430
STFC325-5000	4992	23	29	16795	730	105	130	
STFC325-5400	5310	23	29	17865	777	100	130	
STFC400-5500	5510	23	29	18135	788	120	175	495
STFC400-6000	5996	23	29	19735	858	120	175	
STFC400-6500	6483	23	29	21337	928	120	175	
STFC400-6800	6807	23	29	22404	974	120	175	

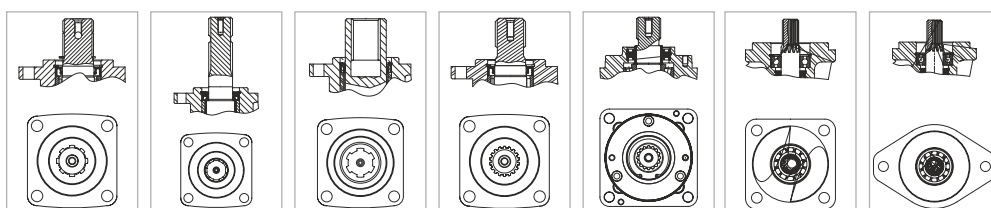
HYDRAULIC MOTORS MBI SERIES | BENT AXIS PISTON MOTORS

17 cc/rot (1.0 in³/rot) to
172 cc/rot (10.5 in³/rot)



Excellent Performance
Low Noise
High Efficiency
Bidirectional

DISPLACEMENT cc/rot (in ³ /rot)	MAXIMUM CONTINUOUS ROTATION rpm	FLANGE AND AXLE OPTIONS						
		DIN 5462 ISO 7653 (EN)	DIN 9611 AGRICULTURAL (DA)	DIN 9611 INTERIOR (DI)	DIN 5482 MULTIPLIER (DM)	DIN 5480 ISO 3019-2 (IA1)	SAE□ 4 BOLTS (B4/C4)	SAE□ 2 BOLTS (B2/C2)
UP TO 350 bar (5000 psi)								
17 (1.0)	3200	MBI17M	MBI17MDA	-	MBI17MDM	-	MBI17M5B4	MBI17M5B2
26 (1.6)	3200	MBI25M	MBI25MDA	-	MBI25MDM	-	MBI25M5B4	MBI25M5B2
32 (2.0)	3200	MBI30M	MBI30MDA	-	MBI30MDM	-	MBI30M5B4	MBI30M5B2
42 (2.6)	2800	MBI40M	MBI40MDA	-	MBI40MDM	-	MBI40M5B4	MBI40M5B2
50 (3.1)	2400	MBI50M	MBI50MDA	-	MBI50MDM	MBI50M5IA1	MBI50M5B4	MBI50M5B2
60 (3.7)	2400	MBI60M7	MBI60M7DA	-	MBI60M7DM	MBI60M7IA1	MBI60M7B4	MBI60M7B2
80 (4.9)	2400	MBI80P7	MBI80P7DA	MBI80P7DI	-	MBI80P7IA1	MBI80P7C4	MBI80P7C2
108 (6.6)	2250	MBI110P7	MBI110P7DA	MBI110P7DI	-	MBI110P7IA1	MBI110P7C4	MBI110P7C2
142 (8.7)	2400	MBI140H9	MBI140H9DA	MBI140H9DI	-	MBI140H9IA1	MBI140H9C4	MBI140H9C2
156 (9.5)	2400	MBI160H9	MBI160H9DA	MBI160H9DI	-	MB160H9IA1	MBI160H9C4	MBI160H9C2
UPO 300 bar (4300 psi)								
81 (4.9)	2200	MBI80M7	MBI80M7DA	-	MBI80M7DM	MBI80M7IA1	MBI80M7B4	MBI80M7B2
126 (7.7)	2000	MBI125P7	MBI125P7DA	MBI125P7DI	-	-	MBI125P7C4	MBI125P7C2
172 (10.5)	2400	MBI170H9	MBI170H9DA	-	-	-	MBI170H9C4	MBI170H9C2
UPO 250 bar (3600 psi)								
136 (8.3)	2000	MBI135P7	MBI135P7DA	MBI135P7DI	-	-	MBI135P7C4	MBI135P7C2
								
								



TO ORDER THE MOTOR WITH THE SAE FLANGE AND THE KEY SHAFT, YOU MUST ADD "K" TO THE MOTOR REF.
Example: MBI30M5B4K

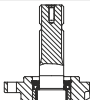
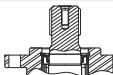
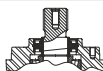
HYDRAULIC MOTORS MBIF SERIES | IRON CAST BENT AXIS PISTON MOTORS

17 cc/rot (1.0 in³/rot) to
81 cc/rot (4.9 in³/rot)



Higher Pressure
Compact Design
High Reability
Bidirectional



DISPLACEMENT cc/rot (in ³ /rot)	MAXIMUM CONTINUOUS ROTATION rpm	FLANGE AND AXLE OPTIONS					
		DIN 5462 ISO 7653 (EM)	DIN 9611 AGRICULTURAL (DA)	DIN 5482 MULTIPLIER (DM)	DIN 5480 ISO 3819-2 (IA1)	SAE BⅡ 4 BOLTS (B4/C4)	SAE BⅡ 2 BOLTS (B2/C2)
UP TO 400 bar (5800 psi)							
17 (1.0)	5400	MBIF17M	MBIF17MDA	MBIF17MDM	-	MBIF17M5B4	MBIF17M5B2
26 (1.6)	5400	MBIF25M	MBIF25MDA	MBIF25MDM	-	MBIF25M5B4	MBIF25M5B2
32 (2.0)	5400	MBIF30M	MBIF30MDA	MBIF30MDM	-	MBIF30M5B4	MBIF30M5B2
42 (2.6)	5400	MBIF40M	MBIF40MDA	MBIF40MDM		MBIF40M5B4	MBIF40M5B2
50 (3.1)	5400	MBIF50M	MBIF50MDA	MBIF50MDM	MBIF50M5IA1	MBIF50M5B4	MBIF50M5B2
60 (3.7)	5000	MBIF60M7	MBIF60M7DA	MBIF60M7DM	MBIF60P7IA1	MBIF60M7B4	MBIF60M7B2
UP TO 350 bar (5000 psi)							
81 (4.9)	500	MBIF80M7	MBIF80M7DA	MBIF80M7DM	MBIF80M7IA1	MBIF80M7B4	MBIF80M7B2
							
							

TO ORDER THE MOTOR WITH THE SAE FLANGE AND THE KEY SHAFT, YOU MUST ADD "K" TO THE MOTOR REF.
Example: MBIF30M5B4K



HYDRAULIC GEAR MOTORS MB3 SERIES

38 cc/rot (2.3 in³/rot) to
125 cc/rot (7.6 in³/rot)

i MB3 SERIES
Medium Size
Fast to Mount
Bidirectional

MB3T SERIES



BIDIRECTIONAL



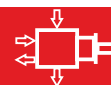
REAR INLET/OUTLET

DISPLACEMENT cc/rot (in ³ /rot)	MAXIMUM CONTINUOUS ROTATION rpm	FLANGE AND AXLE OPTIONS				
		DIN 5462 ISO 7653 (EN)	DIN 5463 UNI (UNI)	DIN 9611 AGRICULTURAL (DA)	SAE B 4 BOLTS (B4)	SAE B 2 BOLTS (B2)
38 (2.3)	2600	MB34T38	MB33T38	MB34T38DA	MB3B4T38	MB3B2T38
45 (2.8)	2500	MB34T45	MB33T45	MB34T45DA	MB3B4T45	MB3B2T45
52 (3.2)	2200	MB34T52	MB33T52	MB34T52DA	MB3B4T52	MB3B2T52
61 (3.7)	2000	MB34T61	MB33T61	MB34T61DA	MB3B4T61	MB3B2T61
70 (4.3)	1900	MB34T70	MB33T70	MB34T70DA	MB3B4T70	MB3B2T70
82 (5.0)	1800	MB34T82	MB33T82	MB34T82DA	MB3B4T82	MB3B2T82
91 (5.6)	1800	MB34T90	MB33T90	MB34T90DA	MB3B4T90	MB3B2T90
102 (6.2)	1600	MB34T105	MB33T105	MB34T105DA	MB3B4T105	MB3B2T105
116 (7.1)	1600	MB34T115	MB33T115	MB34T115DA	MB3B4T115	MB3B2T115
125 (7.6)	1500	MB34T125	MB33T125	MB34T125DA	MB3B4T125	MB3B2T125

MB3GT SERIES

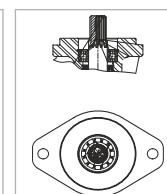
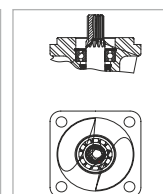
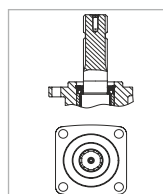
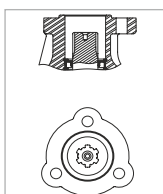
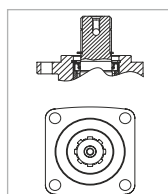


BIDIRECTIONAL



REAR INLET/OUTLET
SIDE INLET/OUTLET

38 (2.3)	2600	MB34GT38	MB33GT38	MB34GT38DA	MB3B4GT38	MB3B2GT38
45 (2.8)	2500	MB34GT45	MB33GT45	MB34GT45DA	MB3B4GT45	MB3B2GT45
52 (3.2)	2200	MB34GT52	MB33GT52	MB34GT52DA	MB3B4GT52	MB3B2GT52
61 (3.7)	2000	MB34GT61	MB33GT1	MB34GT61DA	MB3B4GT61	MB3B2GT61
70 (4.3)	1900	MB34GT70	MB33GT70	MB34GT70DA	MB3B4GT70	MB3B2GT70
82 (5.0)	1800	MB34GT82	MB33GT82	MB34GT82DA	MB3B4GT82	MB3B2GT82
91 (5.6)	1800	MB34GT90	MB33GT90	MB34GT90DA	MB3B4GT90	MB3B2GT90
102 (6.2)	1600	MB34GT105	MB33GT105	MB34GT105DA	MB3B4GT105	MB3B2GT105
116 (7.1)	1600	MB34GT115	MB33GT115	MB34GT115DA	MB3B4GT115	MB3B2GT115
125 (7.6)	1500	MB34GT125	MB33GT125	MB34GT125DA	MB3B4GT125	MB3B2GT125



Orbital Hydraulic Motor



THM
HYDRAULICS

BMH Series

Orbital Hydraulic Motor

Sizes: 200 to 500cc/rev

Max. Pressure up to 175Bar

Specifications

Type	BMH 200	BMH 250	BMH 315	BMH 400	BMH 500
Geometric displacement (cm³/rev.)	203.2	255.9	316.1	406.4	489.2
Max. speed (rpm)	cont. int.	290 348	236 282	183 220	155 184
Max. torque (Nm)	cont. int. peak	510 579 651	621 702 790	740 827 980	830 1040 1170
Max. output (kW)	cont. int.	16 18.5	14 15.5	12.5 15	11 14
Max pressure drop (bar)	cont. int. peak	175 200 225	175 200 225	155 190 210	125 160 180
Max. flow (L/min)	cont. int.	75 90	75 90	75 90	75 90
Weight (kg)	10.5	11	11.5	12.3	13



Ordering code

10.5	11	11.5	12.3	13	1 2 3 4 5 6 7 8 —							
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Note: When the table is used, please fill the code of left rows in dash area and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specifications is not in the table or you have specific requirement, please contact us.

Orbital Hydraulic Motor



THM
HYDRAULICS

BMM Series

Hydraulic Motor

Flow: 8cc to 50cc/rev

Max. Pressure upto 100Bar

Specifications

Type	BMM	BMM	BMM	BMM	BMM	BMM	BMM	BMM	BMM
Geometric displacement (cm ³ /rev.)	8	12.5	20	32	40	50			
Max. speed (rpm)	8.2	12.9	19.9	31.6	39.8	50.3			
	cont.	1950	1550	1000	630	500	400		
	int.	2450	1940	1250	800	630	500		
Max. torque (Nm)									
	cont.	11	16	25	40	45	46		
	int.	15	23	35	57	70	88		
	peak	21	33	51	64	82	100		
Max. output (kW)									
	cont.	1.8	2.4	2.4	2.4	2.2	1.8		
	int.	2.6	3.2	3.2	3.2	3.2	3.2		
Max pressure drop (bar)									
	cont.	100	100	100	100	90	70		
	int.	140	140	140	140	140	140		
	peak	20	200	200	160	160	160		
Max. flow (L/min)									
	cont.	16	20	20	20	20	20		
	int.	20	25	25	25	25	25		
Weight (kg)	1.9	2	2.1	2.2	2.3	2.4			



Ordering code

1 2 3 4 5 6 7 8

Pos.1	2	3	4	5	6	7	8
Code	Displacement	Flange	Output shaft	Ports and drain port	Rotation direction	Paint	Unusually function
Omit	8 12.5 20 32 40 50	M 3-M6 Circle-flange, pilot Ø31.5×5 U 3-1/4-28UNF Circle flange;pilot Ø31.5×5 F 2-Ø9 Rhomb-flange, pilot Ø63×2	A Shaft Ø16, parallel key 5×5×16 B Shaft Ø15.875, parallel key 4.8×4.8×19.05 C Shaft Ø16.5, involute B17×14, DIN5482	E G3/8, G1/8 U 9/16-18UNF, 3/8-24UNF 1E End port G3/8, G1/8 1U End port 9/16-18UNF, 3/8-24UNF	Omit Standard Opposite R	00 Omit B S	Omit Standard 0 No case drain

Note: When the table is used, please fill the code of left rows in the table and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. If the specification is not in the table or you have specific requirements, please contact us.

Orbital Hydraulic Motor



TBM
HYDRAULICS

BMP Series

Orbital Hydraulic Motor

Sizes: 36 to 500cc/rev

Max. Pressure up to 140Bar

Specifications

Type	BMP 36	BMP 50	BMP 80	BMP 100	BMP 125	BMP 160	BMP 200	BMP 250	BMP 315	BMP 400	BMP 500
Geometric displacement (cm ³ /rev.)	36	51.7	77.7	96.2	120.2	157.2	194.5	240.3	314.5	389.5	486.5
Max. speed (rpm)	cont.	1500	1150	615	490	383	310	250	192	155	120
	int.	1650	1450	770	615	475	385	310	240	190	150
Max. torque (Nm)	cont.	55	100	182	236	302	360	460	475	490	430
	int.	76	128	186	290	370	440	570	555	580	560
peak	96	148	218	264	360	434	540	670	840	840	780
Max. output (kW)	cont.	8.0	10.0	11.0	10.0	10.0	10.0	8.5	7.0	6.0	6.0
	int.	11.5	12.0	12.0	12.0	12.0	12.0	10.5	8.5	7.0	7.0
Max pressure drop (bar)	cont.	125	140	140	140	140	140	140	120	95	70
	int.	165	175	175	175	175	175	175	140	115	90
peak	225	225	225	225	225	225	225	225	225	180	130
Max. flow (L/min)	cont.	55	60	60	60	60	60	60	60	60	60
	int.	60	75	75	75	75	75	75	75	75	75
Weight (kg)	5.6	5.6	5.7	5.9	6.0	6.2	6.4	6.7	6.9	7.4	8.0



Ordering code

Pos.1	2	3	4	5	6	7	8
Code	Disp.	Flange	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function
	36 50 80 100 125 160 200 250 315 400 500	2 4 H4 H5	A C E R B F FD G T T3	D M S P R	Omit R Standard Opposite	No paint Blue Black Silver grey	Omit N1 0 F LS Standard Big radial force No case drain Free Running Low Speed
BMP		2-Ø13.5 Rhomb-flange , pilot Ø82.5×8 4-Ø13.5 Rhomb-flange , pilot Ø82.5×8 4-3/8-16 Square-flange , pilot Ø44.4×2.8 4-M10 Square-flange , pilot Ø44.4×2.8	Shaft Ø25 parallel key 8x7x32 Shaft Ø25.4, parallel key 6.35x6.35x31.75 Shaft Ø25.4, splined tooth SEA 6B Short shaft Ø25.4, parallel key 6.35x6.35x31.75 Shaft Ø32 parallel key 10x8x45 Shaft Ø31.75 splined tooth 14-DP12/24 Long shaft Ø31.75 splined tooth 14-DP12/24 Shaft Ø31.75, parallel key 7.9x7.9x31.75 Cone shaft Ø28.56, parallel key B5x5x14 Cone shaft Ø31.75, parallel key 7.9x7.9x25.4	G1/2 Manifold Mount 4×M8, G1/4 M22×1.5 Manifold Mount 4×M8, M14×1.5 7/8-14 O-ring manifold 4×5/16-18UNC, 7/16-20UNF 1/2-14 NPTF Manifold 4×5/16-18UNC, 7/16-20UNF PT(Rc)1/2 Manifold 4×M8, PT(Rc)1/4	Omit R Standard Opposite	No paint Blue Black Silver grey	Omit N1 0 F LS Standard Big radial force No case drain Free Running Low Speed

Note: The shafts of B\F\FD\G\T\T3 are only suitable for flanges of 2 and 4.

Orbital Hydraulic Motor



THM
HYDRAULICS

BMR Series

Orbital Hydraulic Motor

Sizes: 36 to 375cc/rev

Max. Pressure up to 175Bar

Specifications

Type	BMR 36	BMR 50	BMR 80	BMR 100	BMR 125	BMR 160	BMR 200	BMR 250	BMR 315	BMR 375
Geometric displacement (cm ³ /rev.)	36	51.7	81.5	102	127.2	157.2	194.5	253.3	317.5	381.4
Max. speed (rpm)	cont. int.	960 1150	750 940	600 750	475 600	378 475	310 385	240 300	190 240	155 190
Max. torque (Nm)	cont. int. peak	100 126 165	195 220 270	240 280 320	300 340 370	380 430 460	450 500 560	540 610 710	550 690 840	580 690 830
Max. output (kW)	cont. int.	8.5 9.8	9.5 11.2	12.5 15.0	12.5 14.5	12.5 14.0	11.0 13.0	10.0 12.0	9.0 10.0	7.5 9.0
Max pressure drop (bar)	cont. int. peak	140 165 225	140 175 200	175 200 225	175 200 225	175 200 225	175 200 225	175 200 225	175 210 225	115 150 175
Max. flow (L/min)	cont. int.	45 55	50 60	60 75	60 75	60 75	60 75	60 75	60 75	60 75
Weight (kg)		6.5	6.7	7	7.3	7.6	8.0	8.5	9.0	9.5



Ordering code

Pos.1	2	3	4	5	6	7	8
Code	Disp.	Flange	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function
BMR	36	2-Ø13.5Rhomb-flange, pilot Ø82.5×8 4-Ø13.5Rhomb-flange, pilot Ø82.5×8 4-3/8-16 Square-flange, pilot Ø44.4×2.8 4-M10 Square-flange, pilot Ø44.4×2.8	A Shaft Ø25 parallel Key 8x7x32	D G1/2 Manifold Mount 4-M8, G1/4	Omit R Standard Opposite	00 Omit B S No paint Blue Black Silver grey	Standard Big radial force No case drain Free Running Low Speed
	50		C Shaft Ø25.4 parallel Key 6.35x6.35x31.75	M M22 x1.5 Manifold Mount			
	80		E Shaft Ø25.4 splined tooth SAE 6B	S 4-M8, M14 x1.5			
	100		R Short shaft Ø25.4 parallel key 6.35x6.35x31.75	7/8-14 O-ring manifold			
	125		B Shaft Ø32 parallel Key 10x8x45	4-5/16-18UNC, 7/16-20UNF			
	160		F Shaft Ø31.75 splined tooth 14-DP12/24	1/2-14 NPTF			
	200		FD Long shaft Ø31.75 splined tooth 14-DP12/24	Manifold 4-5/16-18UNC, 7/16-20UNF			
	250	H5	G Shaft Ø31.75 parallel Key 7.96x7.96x31.75	PT(Rc) 1/2 Manifold 4-M8, PT(Rc) 1/4			
	315						
	375		T Cone-Shaft Ø28.56 parallel Key B5x5x14				

Orbital Hydraulic Motor



BMSY

Orbital Hydraulic Motor

Sizes: 80 to 475cc/rev

Max. Pressure up 210Bar

Specifications

Type	BMSY 80	BMSY 100	BMSY 125	BMSY 160	BMSY 200	BMSY 250	BMSY 315	BMSY 400	BMSY 475
Geometric displacement (cm³/rev.)	80.6	100.8	125	154	194	243	311	394	475
Max. speed (rpm)	cont. int.	748 900	600 720	470 560	375 450	300 360	240 280	185 225	155 185
Max. torque (Nm)	cont.	225	290	365	485	586	708	880	910
Max. output (kW)	cont.	305	390	480	590	705	860	1000	990
Max pressure drop (bar)	cont. int. peak	16 20 205	18 22 205	18 23 205	18.1 25 210	18.1 24 210	17 20.2 200	11 12 160	9 11 140
Max. flow (L/min)	cont. int.	65 80	75 90	75 90	75 90	75 90	75 90	750 90	75 90
Weight (kg)	9.8	10	10.3	10.7	11.1	11.6	12.3	13.2	14.3



Ordering code

BMSY 1 — 2 — 3 — 4 — 5 — 6 — 7 —

Pos.1	2	3	4	5	6	7	8
Code	Disp	Flange	Output Shaft	Port and Drain Port	Rotation Direction	Paint	Unusually Function
Omit	80	E2	B	D	G1/2	00	
	100	E4	D	M	Manifold Mount	Omit	Omit
	125	F6	G	S	2-M10, G1/4	Blue	S standard
	160	F6	F	P	M22×1.5	Black	Free Running
	200	W	FD		Manifold Mount		Low Speed
	250	W	SL		2-M10, M14×1.5		
	315	E2	T3		7/8-14UNF O-ring manifold		
	400	B 2	S1		-3/8-16, 7/16-20UNF		
	475	SP	I		1/2-14NPTF manifold		
			T1		2-3/8-16UNC, 7/16-20UNF	Silver gray	
S		D	Omit				
		E					

Note: When the table is used, please fill the code of left rows in the table and give us, which the code information is consists of construction, displacement, mounting flange, output shaft and ports. The informations of mounting flange, output shaft and ports are the same as BMS series. The SP flange afflies to shafts of T1, D, B, F, if the specification is not in the table or you have to specific requirement please contact us.

Orbital Hydraulic Motor



BMV

Orbital Hydraulic Motor
 Sizes: 315 to 1000cc/rev
 Max. Pressure up to 200Bar

Specifications

Type	BMV 315	BMV 400	BMV 500	BMV 630	BMV 800	BMV 1000
Geometric displacement (cm³/rev.)	cont.	500	400	320	250	200
	int.	600	480	380	300	240
Max. speed (rpm)	cont.	920	1180	1660	1880	2015
	int.	1110	1410	1940	2110	2280
Max. torque (Nm)	peak	1290	1640	2210	2470	2400
	cont.	38.0	47.0	40.0	33.0	28.6
Max. output (kW)	int.	46.0	56.0	56.0	44.0	40.0
	cont.	200	200	180	160	140
Max pressure drop (bar)	int.	240	240	210	180	160
	peak	280	280	240	210	180
Max. flow (L/min)	cont.	160	200	200	200	200
	int.	200	240	240	240	240
Weight (kg)	31.8	32.6	33.5	34.9	36.5	38.6



Ordering code

Pos.1	2	3	4	5	6	7	8
Code	Displacement	Flange	Output shaft	Ports and drain port	Rotation direction	Paint	Unusually function
Omit	315	4 4-Ø18 Square-flange Ø200, pilot Ø160×11 W 4-Ø18 Wheel-flange Ø224, pilot Ø180×10	A Shaft Ø50 , parallel key 14×9×70	D G1 Manifold 4×M12, G1/4	Omit Standard R Opposite	00 No paint Omit Blue B Black S Silver grey	Standard
	400		BD Shaft Ø53.975, splined key 16-DP8/16	M M33×2 Manifold 4×M12, M14×1.5			
	500		B Shaft Ø53.975, splined key 16-DP8/16	S 1-5/16-12UN, 9/16-18UNF			
	630		C Shaft Ø57.15, parallel key 12.7×12.7×57.15	G G1, G1/4			
	800		T Cone shaft Ø60, parallel key 16×10×32	M5 M33×2, M14×1.5			
	1000		T1 Cone shaft Ø57.2, parallel key 14.308×14.308×50.8	S1 1-5/16-12UN 7/16-20UNF			

BMV - - - - - - - -

Orbital Hydraulic Motor



BMT

Orbital Hydraulic Motor
 Sizes: 160 to 800cc/rev
 Max. Pressure up to 200Bar

Specifications

Type	BMT 160	BMT 200	BMT 230	BMT 250	BMT 315	BMT 400	BMT 500	BMT 630	BMT 800
Geometric displacement (cm ³ /rev.)	161.1	201.4	232.5	251.8	326.3	410.9	523.6	629.1	801.8
Max. speed (rpm)	cont. int.	625 750	536 643	500 600	380 460	305 365	240 285	196 233	154 185
Max. torque (Nm)	cont. int.	590 710	670 821	730 880	950 1140	1080 1260	1220 1370	1318 1498	1464 1520
Max. output (kW)	peak cont. int.	669 27.7 32	838 34.9 40	958 34.7 40	1036 34.5 40	1346.3 34.9 40	1450.3 31.2 35	1643.8 28.8 35	1618.8 25.3 27.5
Max pressure drop (bar)	cont. int.	200 240	200 240	200 240	200 240	180 210	160 180	140 160	125 130
Max. flow (L/min)	peak cont. int.	280 100 125	280 125 150	280 125 150	280 125 150	280 125 150	210 125 150	190 125 150	160 125 150
Weight (kg)		19.5	20	20.4	20.5	21	22	23	24



Ordering code

Pos.1	2	3	4	5	6	7	8
Code	Disp.	Flange	Output Shaft	Ports and Drain Port	Rotation Direction	Paint	Unusually Function
BMT	160 200 250 315 400 500 630 800	4 4-Ø14 Square-flangeØ160, pilotØ125 × 9 K6 4-Ø14.5Square-flangeØ162, pilotØ127 × 9 W 4-Ø18 Wheel-flangeØ200, pilotØ160 × 7	M G F FD T T1 SL G1 F1 Shaft Ø40 , parallel key 12 × 8 × 70 Shaft Ø38.1 , parallel key 9.52 × 9.52 × 57.15 Shaft Ø38.1 , splined tooth 17-DP12/24 Shaft Ø38.1 , splined tooth 17-DP12/24 Cone-shaft 1:10 Ø45 , parallel key B12 × 8 × 28 Cone-shaft 1:8 Ø45 , parallel key 11:13 × 11.13 × 31.75 shaft Ø34.85 Splined key Splined key 6-34.85 × 28.14 × 8.64 parallel key 7.96 × 7.96 × 40 Shaft Ø31.75 splined tooth 14-DP12/24	D M S S1 G M3 G3/4 Manifold Mount, 4-M10 , G1/4 M27 × 2 Manifold Mount, 4-M10, M14 × 1.5 1-1/16-12UN O-ring, 9/16-18UNF 1-1/16-12UN O-ring, 7/16-20UNF G3/4, G1/4 M27 × 2, M14 × 1.5	Omit Standard Opposite R	00 Omit B S No paint Blue Black Silver grey	Omit F LS Standard Free Running Low Speed

Orbital Hydraulic Motor



TBM
HYDRAULICS

BMK2

Orbital Hydraulic Motor
Sizes: 65 to 475cc/rev
Max. Pressure up to 210Bar

Specifications

Type	BMK2 65	BMK2 80	BMK2 100	BMK2 125	BMK2 160	BMK2 200	BMK2 250	BMK2 315	BMK2 400	BMK2 475
Geometric displacement (cm ³ /rev.)	65	80	100.9	129.8	156.8	193.4	242.5	304.3	390.8	485
	cont.	800	742	576	477	385	308	246	191	153
Max. speed (rpm)	990	980	924	720	713	577	462	365	287	230
	cont.	235	295	385	455	540	660	765	775	845
Max. torque (Nm)	245	345	445	560	570	665	820	885	925	930
	cont.	210	210	210	205	205	205	210	155	120
Max. pressure drop (bar)	275	310	310	310	260	260	260	240	170	140
	peak.	310	310	310	310	310	310	310	205	170
Max. flow (L/min.)	55	65	75	75	75	75	75	75	75	75
	int.	65	80	95	115	115	115	115	115	115
Weight (Kg)	9.2	9.4	9.7	10	10.2	10.5	11	11.5	12	12.4



Ordering code

Pos.1	2	3			4			5			6	7	8
Code	Disp.	Flange			Output Shaft			Port and Drain Port			Rotation Direction	Paint	Unusually Function
BMK2	65	E2	2xØ 13.5 Rhomb-flange Ø106.4, pilot Ø82.5x6.4	A	Shaft Ø25, parallel key 8x7x32	DB	G1/2, G1/4	G1/2, G1/4 G1/2, 7/16-20 UNF 7/8-14UNF O-ring, G1/4 7/8-14UNF O-ring, 7/16-20 UNF M22x1.5, M14x1.5 1/2", 5/8" Crosshole Manifold 3x3/8-16UNC, 7/16-20UNF 1/2", 5/8" Crosshole Manifold 3xM10, G1/4	Omit Standard R Opposite	00	No paint	Blue Black Silver grey	Omit Standard F Free Running
	80			B	Shaft Ø32, parallel key 10x8x45	DU	G1/2, 7/16-20 UNF						
	100			K	Shaft Ø25.4, Woodruff key Ø25.4x6.35	SB	7/8-14UNF O-ring, G1/4						
	125			G	Shaft Ø31.75, parallel key 7.96x7.96x31.75	SU	7/8-14UNF O-ring, 7/16-20 UNF						
	160			FE	Shaft Ø31.75, splined 14-DP12/24	M4	M22x1.5, M14x1.5						
	200			S1	Shaft Ø25.4, splined SAE 6B	MU	1/2", 5/8" Crosshole Manifold 3x3/8-16UNC, 7/16-20UNF						
	250			I	Sub-shaft Ø22, splined 13-DP16/32	MM	1/2", 5/8" Crosshole Manifold 3xM10, G1/4						
BMK2	315	WE	4xØ 13.6 Wheel-flange Ø147.6, pilot Ø107.95x6.4	T4	Core-shaft Ø31.75, parallel key 7.96x7.96x25.4								
	400												
	475												

Orbital Hydraulic Motor



THM
HYDRAULICS

BMK6

Orbital Hydraulic Motor
Sizes: 200 to 1000cc/rev
Max. Pressure up to 200Bar

Specifications

Type	BMK6 200	BMK6 250	BMK6 315	BMK6 400	BMK6 500	BMK6 630	BMK6 800	BMK6 1000
Geometric displacement (cm ³ /rev.)	195.6	246.1	311.6	391.3	490.8	623	802.4	981.6
Max.speed (rpm)	cont.	610	480	382	304	240	186	152
	int.	830	690	570	455	360	280	230
Max.torque (N•m)	cont.	710	920	1160	1445	1480	1580	1675
	int.	1080	1325	1625	1880	1890	1880	1860
Max.pressure drop (bar)	cont.	200	200	200	20	17.5	14	14
	int.	300	300	300	275	225	155	140
	peak.	300	300	300	300	240	175	170
Max.flow (L/min)	cont.	150	150	150	150	150	150	150
	int.	170	205	225	225	225	225	225
Weight (kg)	26.3	26.8	27.3	28	28.8	29.6	30.5	32



Ordering code

Pos.1	2	3		4		5		6	7	8
Code	Disp.	Flange		Output Shaft		Port and Drain Port		Rotation Direction	Paint	Unusually Function
Omit	200	CC	4-Ø14.2 Square-flange Ø161.9 pilot Ø127×12.5	G2	Shaft Ø38.1 parallel key 9.52×9.52×57.15 FE Shaft Ø38.1 splined tooth 17-DP1224 Y1 Shaft Ø40 parallel key 12×8×63 T1 Cone-shaft 1:8 Ø45 , parallel key 11.13X11.13X31.75	SF	3/4" Manifold Mount	Omit Standard R Opposite	00 No paint Omit Blue B Black S Silver grey	Omit Standard
	250			FE		SF0	7/16-20UNF			
	315			Y1		SF5	Ø16 Manifold Mount 4×M12.			
	400	CC1	4-Ø14.2 Square-flange Ø161.9 pilot Ø125×12.5	T1		SF6	M14×1.5			
	500	W	4-Ø14.2 Wheel-flange Ø184.12 Pilot 139.7			SF7	1-5/16-12UN, 7/16-20UNF			
	630					SF8	M33×2, M14×1.5			
	800						G1, G1/4			
	1000						G3/4, G1/4			

1 BMK6 - 2 - 3 - 4 - 5 - 6 - 7 - 8

TPF2G3-M

High pressure gear pump

Flow: 20 to 71cc/rev

Maximum operating pressure: 250 Bar



Features

- Unique sealing design to operate up to 270 bar continuous
- Special alloy bush with unique lock design for maximum rigidity
- Modified gear tooth to lower operating torque
- 100% testing on computerised test bench
- Long service life
- Pumps in "V" option available to operate up to -10°C and +120°C
- Completely manufactured on CNC machines
- Threaded and flange port available
- Covers applications for high pressures, substituting costly piston pumps depending on application
- New principal of hydrostatic gap compension
- Double pumps available check with us.

Ordering code

TPF2G3-M	1X/							*
Series 11 to 19		Further details Series 11 to 19						
Flow cc/rev.		No code = Single pump						
20cc	= 020	S = Rectangular flange, dia 50.8mm spigot						
22cc	= 022	B = SAE-A, 2 hole flange, dia 101.6mm spigot						
26cc	= 026	V = FKM Seals up to +120°C						
33cc	= 033	M = NBR Seals up to +80°C						
39cc	= 039	01 = "G" BSP Thread ports as per ISO 228/1 (on request consult)						
46cc	= 046	05 = "E" flange on suction and delivery ports						
50cc	= 050	07 = SAE flange on suction and delivery ports						
52cc	= 052							
55cc	= 055							
63cc	= 063							
71cc	= 071							
Rotation								
Clockwise rotation	= R							
Anti-clockwise	= L							

Permissible torque at drive shaft:

R= Splined shaft SAE-A 7/8", $T_{max} = 500 \text{ Nm}$

A= Parallel keyed shaft 22.22mm, $T_{max} = 400 \text{ Nm}$

C= Conical shaft 1:8, dia 21.6mm, $T_{max} = 300 \text{ Nm}$

Available flange & shaft combinations

Cylindrical shaft 22.22mm

Tapered shaft 21.6mm

Splined shaft SAE-B, 7/8", 13t

Cylindrical shaft 22.22mm

"A"+ Rectangular flange

"C"+ Rectangular flange

"R"+ SAE-A, 2-bolt flange

"A"+ SAE-A, 2-bolt flange

"B"+50.8mm spigot

"B"+50.8mm spigot

"R"+101.6mm spigot

"R"+101.6mm spigot

TPF2G4-M

High pressure gear pump

Flow: 40 to 100 cc/rev

Maximum operating pressure: 250 Bar



Features

- Unique sealing design to operate up to 250 bar continuous
- Special alloy bush with unique lock design for maximum rigidity
- Modified gear tooth to lower operating torque
- 100% testing on computerised test bench
- Long service life
- Pumps in "V" option available to operate up to -10°C and +120°C
- Completely manufactured on CNC machines
- Threaded and flange port available
- Covers applications for high pressures, substituting costly piston pumps depending on application
- New principal of hydrostatic gap compension
- Double pumps available check with us.

Ordering code

TPF2G4-M		1X/							*
Series 11 to 19			Further details Series 11 to 19						
Flow cc/rev.			No code = Single pump						
40cc		= 040	S = Rectangular flange, dia 50.8mm spigot B = SAE-A, 2 hole flange, dia 101.6mm spigot						
50cc		= 050							
63cc		= 063							
71cc		= 071							
80cc		= 080							
90cc		= 090							
100cc		= 0100	V = FKM Seals up to +120°C M = NBR Seals up to +80°C						
Rotation									
Clockwise rotation		= R	01 = "G" BSP Thread ports as per ISO 228/1 (on request consult) 05 = "E" flange on suction and delivery ports 07 = SAE flange on suction and delivery ports						
Anti-clockwise		= L							
Parallel/cyl shaft ISO 32mm		= A							
Splined shaft 21.81 dia, DP16/32-13 teeth		= R							
Taper shaft 19mm, 1:8		= C							

Permissible torque at drive shaft:

R= Splined shaft SAE-A 7/8", $T_{max} = 500 \text{ Nm}$

A= Parallel keyed shaft 32mm, $T_{max} = 400 \text{ Nm}$

C= Conical shaft 1:8, dia 21.6mm, $T_{max} = 300 \text{ Nm}$

Available flange & shaft combinations

Cylindrical shaft 22.22mm

Tapered shaft 21.6mm

Splined shaft SAE-B, 7/8", 13t

Cylindrical shaft 22.22mm

"A"+Rectangular flange

"C"+Rectangular flange

"R"+SAE-A, 2-bolt flange

"A"+SAE-A, 2-bolt flange

"B"+50.8mm spigot

"B"+50.8mm spigot

"R"+101.6mm spigot

"R"+101.6mm spigot

CBB Series

Gear pump
Flow: 2.5 to 125 L/min



Features

- The CB-B gear pump is a power component in a hydraulic system.
- The pump uses high-precision gears, high-strength cast iron shells and other structures.
- The mechanical energy transmitted by the motor is converted into a hydraulic energy conversion device by intermeshing gears.
- In the hydraulic system to provide a fixed hydraulic energy.
- The pump has the advantages of simple structure, reliable operation, convenient maintenance, good adaptability to impact load, widely used in the hydraulic system of the machine tool, and can be used in hydraulic systems of other machines.

Ordering code

CB	-	B	*	*
Gear pump				
Working pressure 25 Bar		= B		
Rotation direction			= omit	
Clockwise			= X	
Counter clockwise				
Nominal Flow rate				
See the specification table as below				

Specifications

Product number	Flow L/min	Preset pressure Bar	Rated speed r/min	Driving power r/min	Volumetric efficiency %	Weight Kg
CB-B2.5	2.5	25	1450	0.13	≥70	2.5
CB-B4	4			0.21	≥80	2.8
CB-B6	6			0.31	≥80	3.2
CB-B10	10			0.51	≥90	3.5
CB-B16	16			0.82	≥90	5.2
CB-B20	20			1.02	≥90	5.3
CB-B25	25			1.30	≥90	5.5
CB-B32	32			1.65	≥94	5.7
CB-B40	40			2.10	≥94	10.5
CB-B50	50			2.60	≥94	11
CB-B63	63			3.30	≥94	11.8
CB-B80	80			4.10	≥94	17.6
CB-B100	100			5.10	≥95	18.7
CB-B125	125			6.50	≥95	19

Single gear pump with roller bearing

CBKP

Single Gear Pump with roller bearing

Size: 32 to 100 mL/r

Max Pressure: 250Bar



Features

- Adopting high strength alloy steel gear to maintain high reliability and long lifetime of gear pump.
- The housing made of liquid extrusion processing has a strong bearing capacity.
- The connection form of input shaft includes flat key, rectangle spline, SAE spline and metric system involute spline.
- The automatic compensation mechanism of axial clearance enables gear pump to maintain a long-time high efficiency work.
- Adopting high strength roller bearing to improve the capacity of resisting overload and pollution.
- It is widely applied in the industry of engineering machinery.

Ordering code

	CBKP	*	—	B	F	*	*
CBKP-Single Gear pump with roller bearing							
Nominal Displacement (mLr) 32, 40, 50, 63, 80, 100							
Mounting Square				= B			
Jointing Port: Flange					= F		
Shaft End Plain key SAE Spline Rectangular Spline Involute Spline						= P = Ø = H = X	
Rotation Left (counter clockwise) Right (clockwise is omitted)						= L = No code	

Specifications

Model	Nominal Displacement (mL/r)	Pressure (Bar)		Speed (r/min)			Volumetric efficiency (>%)
		Rated	Max	Min	Rated	Max	
CBKP32-BF**	32	200	250	500	2000	2500	90
CBKP40-BF**	40						
CBKP50-BF**	50						
CBKP63-BF**	63						
CBKP80-BF**	80						
CBKP100-BF**	100						

CBKP

Double Gear Pump
Size: 72 to 200 mL/r
Max Pressure: 250 Bar



Features

- The housing adopts hydraulic extrusion molding technology with strong bearing capacity.
- Adopt high strength alloy steel gears, the gear pump has high reliability and long service-life.
- High strength roller bearing, improve the anti-oveload and antipollution capability of gear pump.
- The shaft extension type: Plain key(P), Rectangle spline(H),SAE spline, metric involute spline.
- The auto-compensation unit of axial clearance ensures the high volumetric efficiency.
- Widely applied to engineering machinery industry.

Ordering code

CBKP	*	/	*	—	B	F	*	*
CBKP								
First Pump Nominal Displacement (mL/r)								
40, 50, 63, 80, 100								
Second Pump Nominal Displacement (mL/r)								
32, 40, 50, 63, 80, 100								
Mounting								
Square					= B			
Jointing Port								
Flange						= F		
Shaft End								
Plain key							= P	
SAE Spline							= Ø	
Rectangular Spline							= H	
Involute Spline							= X	
Rotation								
Left (counter clockwise)							= L	
Right (clockwise is omitted)							= R	

Specifications

Model	Nominal Displacement (mL/r)	Pressure (Bar)		Speed (r/min)			Volumetric efficiency (>%)
		Rated	Max	Min	Rated	Max	
CBKP40/32-BF**	40/32	200	250	500	2000	2500	90
CBKP40/40-BF**	40/40						
CBKP50/32-BF**	50/32						
CBKP50/40-BF**	50/40						
CBKP50/50-BF**	50/50						
CBKP63/32-BF**	63/32						
CBKP63/40-BF**	63/40						
CBKP63/50-BF**	63/50						
CBKP63/63-BF**	63/63						
CBKP80/32-BF**	80/32						
CBKP80/40-BF**	80/40						
CBKP80/50-BF**	80/50						
CBKP80/63-BF**	80/63						
CBKP80/80-BF**	80/80						
CBKP100/50-BF**	100/50						
CBKP100/80-BF**	100/80						
CBKP100/100-BF**	100/100						

CBKP

Triple Gear Pump
Size: 72 to 200 mL/r
Max Pressure: 250 Bar



Ordering code

CBKP	*	/	*	/	*	—	B	F	*	*
CBKP										
First Pump Nominal Displacement (mLr)										
50, 63, 80, 100										
Second Pump Nominal Displacement (mLr)										
32, 40, 50, 63, 80, 100										
Third Pump Nominal Displacement (mLr)										
32, 40, 50, 63, 80, 100										
Mounting										
Square							= B			
Jointing Port										
Flange								= F		
Shaft End										
Plain key									= P	
SAE Spline									= Ø	
Rectangular Spline									= H	
Involute Spline									= X	
Rotation										
Left (counter clockwise)										= L
Right (clockwise is omitted)										= R

Specifications

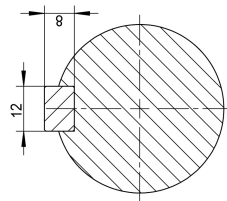
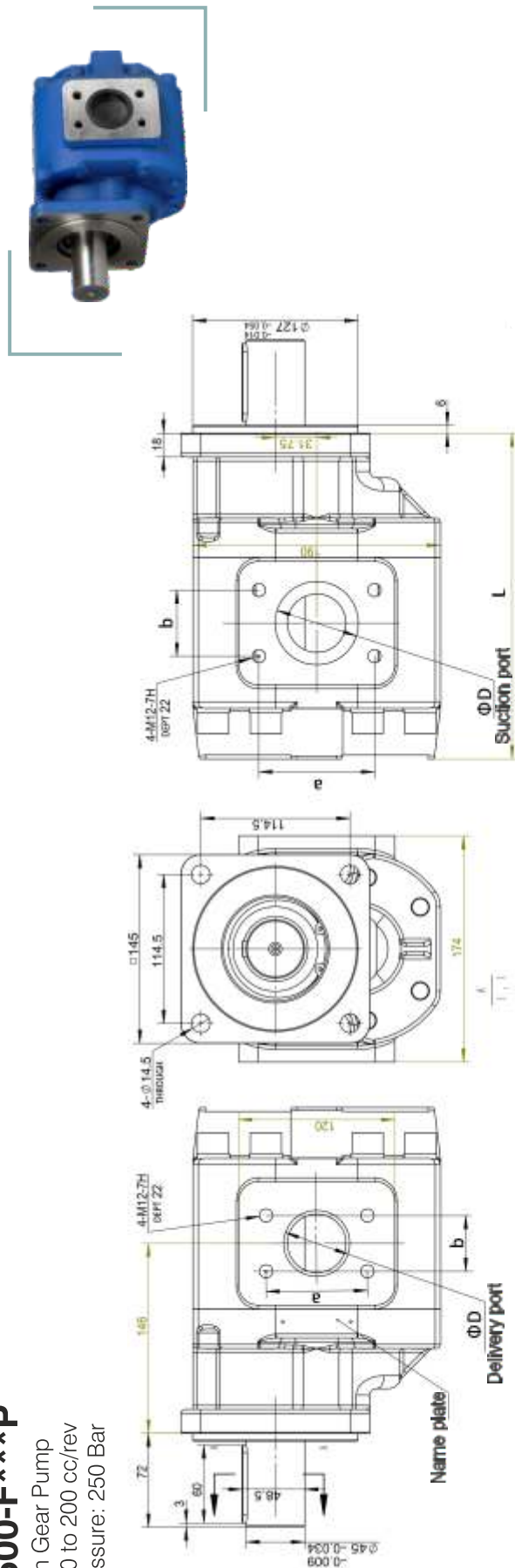
Model	Nominal Displacement (mL/r)	Pressure (Bar)		Speed (r/min)			Volumetric efficiency (>%)
		Rated	Max	Min	Rated	Max	
CBKP50/50/40-BF**	50/50/40	200	250	500	2000	2500	90
CBKP63/40/32-BF**	63/40/32						
CBKP63/50/32-BF**	63/50/32						
CBKP63/63/32-BF**	63/63/32						
CBKP63/63/40-BF**	63/63/40						
CBKP80/50/32-BF**	80/50/32						
CBKP80/50/50-BF**	80/50/50						
CBKP80/63/32-BF**	80/63/32						
CBKP80/63/40-BF**	80/63/40						
CBKP80/80/32-BF**	80/80/32						
CBKP80/80/40-BF**	80/80/40						
CBKP100/63/40-BF**	100/63/40						
CBKP100/63/50-BF**	100/63/50						
CBKP100/80/32-BF**	100/80/32						
CBKP100/80/40-BF**	100/80/40						
CBKP100/80/63-BF**	100/80/63						



Cast Iron Gear Pump with Roller bearing

TP7600-F***P

Cast Iron Gear Pump
Size: 140 to 200 cc/rev
Max Pressure: 250 Bar



Features :

- 1). Patented 2 Pcs housing design, lower leakage, high efficiency.
- 2). Big displacement up to 200cc/r, high pressure design.
- 3). 45mm parallel shaft specially designed for general applications (splined shaft also available on demand).
- 4). High strength gear material for long life.

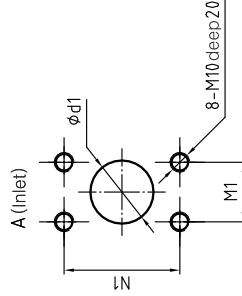
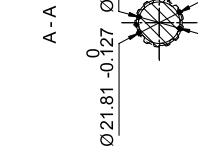
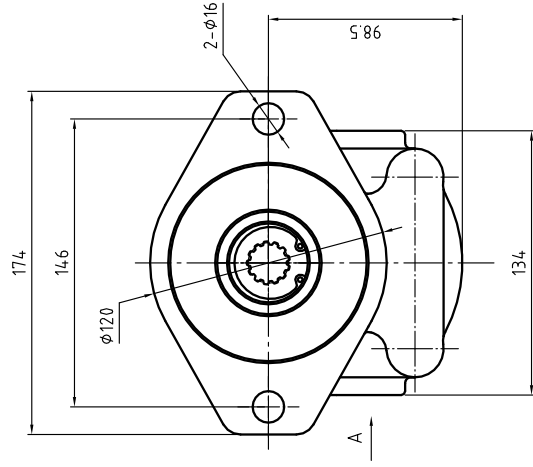
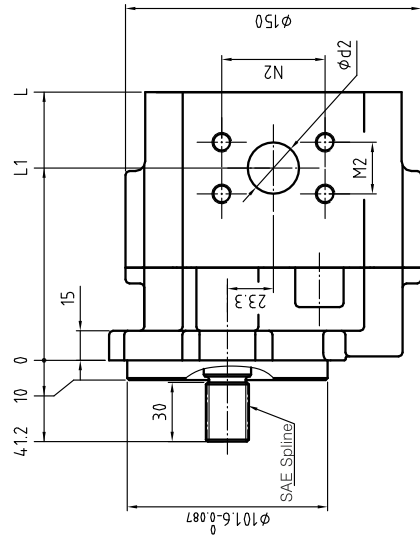
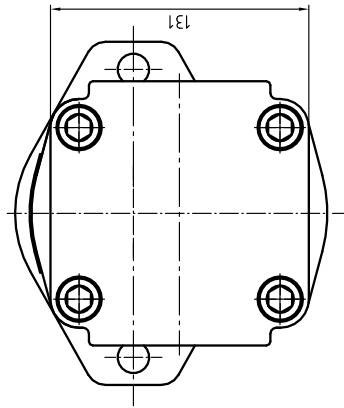
Technical specifications :

Model	Displacement cc/rev	L1 (mm)	L (mm)	Suction port (mm)		Delivery port (mm)		Pressure (Bar)		Rotation speed (rpm)		Flow rate (lpm)	
TP7600-F140P	140	134.9	225.1	a*b 77.8* 42.9	ØD 50.8	a*b 58.7* 30.2	ØD 32	Rated 200	Max. 250	Min. 600	Max. 2200	@1500 rpm 189	@2200 rpm 283
TP7600-F160P	160	139.7	232.7	a*b 88.9* 50.8	ØD 64	a*b 77.8* 42.9	ØD 50.8	160	200	600	2200	216	323
TP7600-F180P	180	141.5	242.6	a*b 88.9* 50.8	ØD 64	a*b 77.8* 42.9	ØD 50.8	160	200	600	2200	243	364
TP7600-F200P	200	146.1	250.6	a*b 88.9* 50.8	ØD 64	a*b 77.8* 42.9	ØD 50.8	160	200	600	2200	270	404

Cast Iron Gear Pump (Spline shaft)

CBGTAL

Cast Iron Gear Pump
Size: 25 to 63 mL/r
Max Pressure: 250 Bar



Specification

Model	Nominal Displacement (mLr)	Pressure (bar)		Speed (r/min)			Volumetric efficiency (≥%)	L1	L	Inlet			Outlet			Weight (kg)
		Rated	Max	Min	Rated	Max				d1	M1	N1	d2	M2	N2	
CBGTAL-25-AF0*	25	200	250	800	2000	3150	92	87	126	26	26.2	52.4	20	22.2	47.6	13
CBGTAL-26-AF0*	26							89	128							14.4
CBGTAL-32-AF0*	32							92	131							14.7
CBGTAL-36-AF0*	36							95	134	32	30.2	58.7	26	26.2	52.4	15
CBGTAL-40-AF0*	40							97.5	136							15.2
CBGTAL-46-AF0*	46							103	142	38						15.7
CBGTAL-50-AF0*	50	103	142	15.7												
CBGTAL-55-AF0*	55	106.5	145.5	16												
CBGTAL-63-AF0*	63	111	150	16.4												

Rotation: left

SAE External involute spline data							
1	Number of tooth	13					
2	Pitch	16/32 D.P					
3	Pressure angle	30°					
4	Major diameter	$\varnothing 21.81^{0}_{-0.127}$					
5	Minor diameter	$\varnothing 18.63^{0}_{-0.2}$					
6	Pin diameter	$\varnothing 3.048$					
7	Measurement over pins	$24.98^{+0.05}_{-0.15}$					
8	Flat root						



THM
HYDRAULICS

THM
HYDRAULICS

Cast Iron Gear Pump

Size: 25 to 63 mL/r

Max Pressure: 250

Max Pressure: 250 Bar



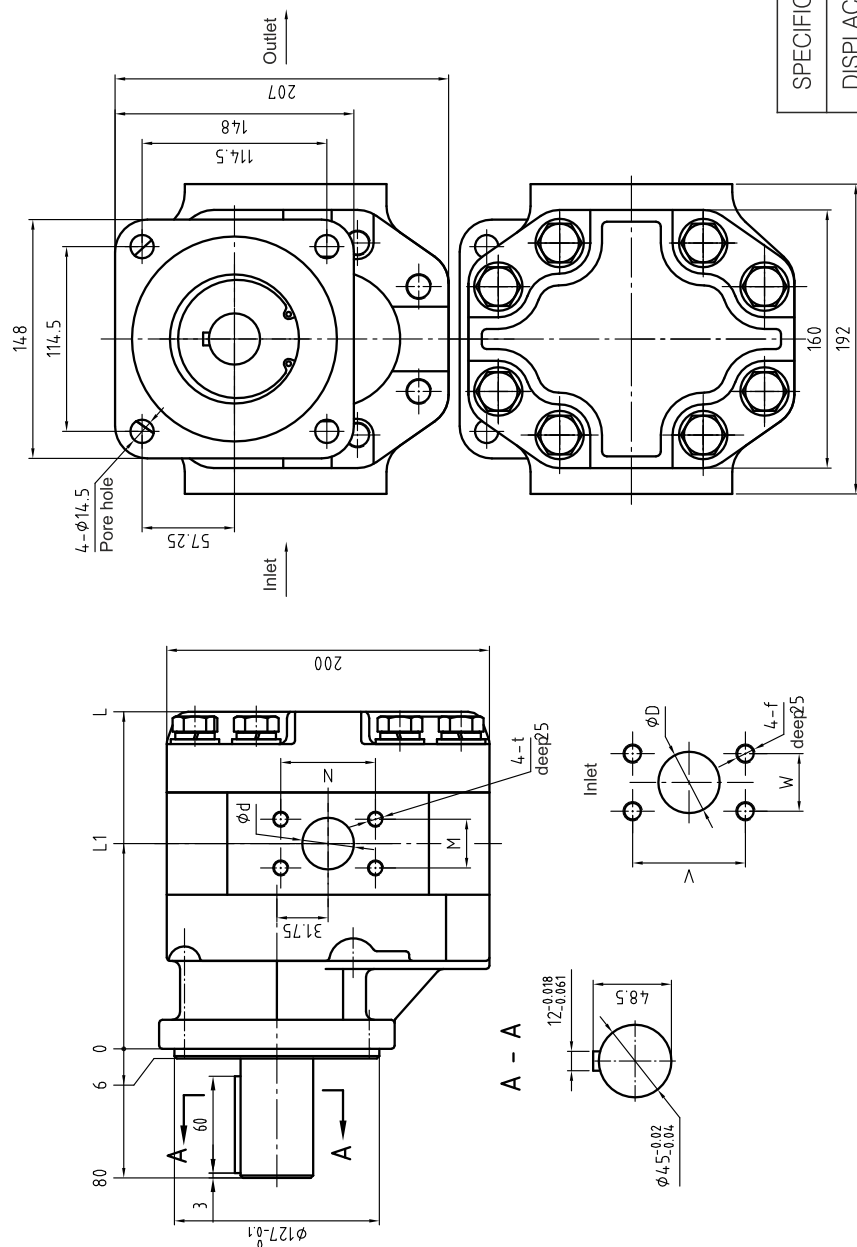
Rotation: left

[illegible]

CBZTG3

Size: 125 to 200 mL/r

Max Pressure: 200 Bar



SPECIFICATIONS:	
DISPLACEMENT	REFER TO SHEET
RATED PRESSURE	160 BAR
MAX. PRESSURE	200 BAR
RATED SPEED	2000R/MIN
SPEED RANGE	600 TO 2800 R/MIN
EFFICIENCY	90%
ROTATION	CLOCKWISE
COUNTER CLOCKWISE	EXCHANGE - INLET AND OUTLET

[illegible]

HYDRAULIC GEAR PUMPS B2 SERIES

12 cc/rot (0.7 in³/rot) to
39 cc/rot (2.4 in³/rot)



i B2 SERIES
Small
Fast to Mount
Bidirectional

B2T SERIES

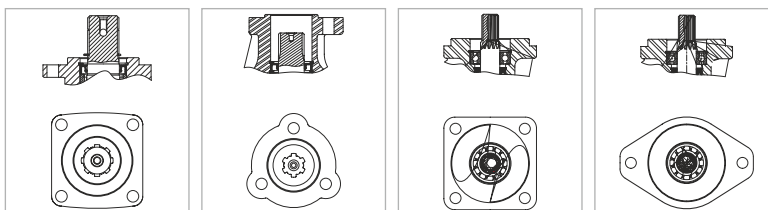


BIDIRECTIONAL



REAR INLET/OUTLET

DISPLACEMENT cc/rot (in ³ /rot)	MAXIMUM OPERATING PRESSURE bar (psi)	MAXIMUM CONTINUOUS ROTATION rpm	FLANGE AND AXLE OPTIONS			
			DIN 5462 ISO 7653 (EN)	DIN 5463 UNI (UNI)	SAE B 4 BOLTS (B4)	SAE B 2 BOLTS (B2)
12 (0.7)	280 (4000)	2500	B24T12	B23T12	B2B4T12	B2B2T12
16 (1.0)	280 (4000)	2000	B24T16	B23T16	B2B4T16	B2B2T16
20 (1.2)	260 (3800)	2000	B24T20	B23T20	B2B4T20	B2B2T20
26 (1.6)	240 (3500)	2000	B24T25	B23T25	B2B4T25	B2B2T25
32 (2.0)	220 (3200)	1800	B24T32	B23T32	B2B4T32	B2B2T32
39 (2.4)	170 (2500)	1800	B24T40	B23T40	B2B4T40	B2B2T40



HYDRAULIC GEAR PUMPS B3 SERIES

38 cc/rot (2.3 in³/rot) to
125 cc/rot (7.6 in³/rot)



**Medium Size
Fast to Mount
Bidirectional**



B3T SERIES



BIDIRECTIONAL



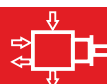
REAR INLET/OUTLET

DISPLACEMENT cc/rot (in ³ /rot)	MAXIMUM OPERATING PRESSURE bar (psi)	MAXIMUM CONTINUOUS ROTATION rpm	FLANGE AND AXLE OPTIONS				
			DIN 5462 ISO 7653 (EN)	DIN 5463 UNI (UNI)	DIN 9611 AGRICULTURAL (DA)	SAE B 4 BOLTS (B4)	SAE B 2 BOLTS (B2)
38 (2.3)	280 (4000)	2600	B34T38	B33T38	B34T38DA	B3B4T38	B3B2T38
45 (2.8)	280 (4000)	2500	B34T45	B33T45	B34T45DA	B3B4T45	B3B2T45
52 (3.2)	260 (3800)	2200	B34T52	B33T52	B34T52DA	B3B4T52	B3B2T52
61 (3.7)	240 (3500)	2000	B34T61	B33T61	B34T61DA	B3B4T61	B3B2T61
70 (4.3)	220 (3200)	1900	B34T70	B33T70	B34T70DA	B3B4T70	B3B2T70
82 (5.0)	210 (3000)	1800	B34T82	B33T82	B34T82DA	B3B4T82	B3B2T82
91 (5.6)	190 (2700)	1800	B34T90	B33T90	B34T90DA	B3B4T90	B3B2T90
102 (6.2)	190 (2700)	1600	B34T105	B33T105	B34T105DA	B3B4T105	B3B2T105
116 (7.1)	180 (2600)	1600	B34T115	B33T115	B34T115DA	B3B4T115	B3B2T115
125 (7.6)	170 (2500)	1500	B34T125	B33T125	B34T125DA	B3B4T125	B3B2T125

B3GT SERIES

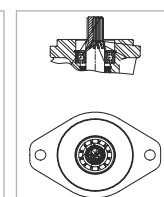
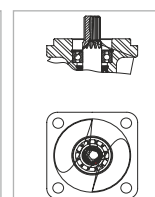
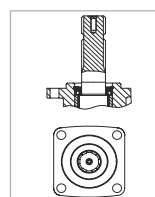
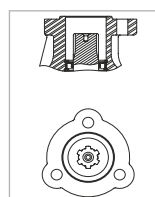
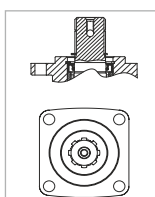


BIDIRECTIONAL



REAR INLET/OUTLET
SIDE INLET/OUTLET

38 (2.3)	280 (4000)	2600	B34GT38	B33GT38	B34GT38DA	B3B4GT38	B3B2GT38
45 (2.8)	280 (4000)	2500	B34GT45	B33GT45	B34GT45DA	B3B4GT45	B3B2GT45
52 (3.2)	260 (3800)	2200	B34GT52	B33GT52	B34GT52DA	B3B4GT52	B3B2GT52
61 (3.7)	240 (3500)	2000	B34GT61	B33GT61	B34GT61DA	B3B4GT61	B3B2GT61
70 (4.3)	220 (3200)	1900	B34GT70	B33GT70	B34GT70DA	B3B4GT70	B3B2GT70
82 (5.0)	210 (3000)	1800	B34GT82	B33GT82	B34GT82DA	B3B4GT82	B3B2GT82
91 (5.6)	190 (2700)	1800	B34GT90	B33GT90	B34GT90DA	B3B4GT90	B3B2GT90
102 (6.2)	190 (2700)	1600	B34GT105	B33GT105	B34GT105DA	B3B4GT105	B3B2GT105
116 (7.1)	180 (2600)	1600	B34GT115	B33GT115	B34GT115DA	B3B4GT115	B3B2GT115
125 (7.6)	170 (2500)	1500	B34GT125	B33GT125	B34GT125DA	B3B4GT125	B3B2GT125



To order the UNI-DIRECCIONAL version, you must add "U" to the pump Ref.

Example: B34TU82

Note: Different displacements can be made

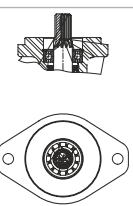
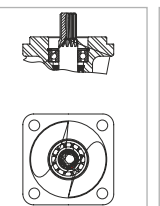
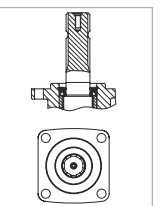
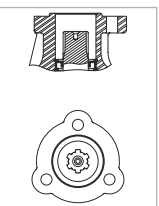
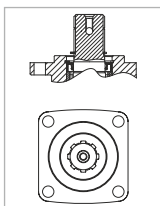
HYDRAULIC GEAR PUMPS B3D SERIES | TANDEM PUMPS

38 cc/rot (2.3 in³/rot) to
125 cc/rot (7.6 in³/rot)



Tandem gear pump with bidirectional sense of flow,
with side outlet, prepared for mounting of UNI gear
pumps.

i **B3D SERIES**
Medium Size
Fast
Assembled up to Three Pumps
Bidirectional

B3D SERIES		 BIDIRECTIONAL		 SIDE INLET/OUTLET	
DISPLACEMENT	FLANGE AND AXLE OPTIONS				
cc/rot (in ³ /rot)	DIN 5462 ISO 7653 (EN)	DIN 5463 UNI (UNI)	DIN 9611 AGRICULTURAL (DA)	SAE B 4 BOLTS (B4)	SAE B 2 BOLTS (B2)
38 (2.3)	B34D38	B33D38	B34RD38DA	B3B4D38	B3B2D38
52 (3.2)	B34D52	B33D52	B34RD52DA	B3B4D52	B3B2D52
61 (3.7)	B34D61	B33D61	B34RD61DA	B3B4D61	B3B2D61
70 (4.3)	B34D70	B33D70	B34RD70DA	B3B4D70	B3B2D70
82 (5.0)	B34D82	B33D82	B34RD82DA	B3B4D82	B2B2D82
91 (5.6)	B34D90	B33D90	B34RD90DA	B3B4D90	B3B2D90
102 (6.2)	B34D105	B33D105	B34RD105DA	B3B4D105	B3B2D105
116 (7.1)	B34D115	B33D115	B34RD115DA	B3B4D115	B3B2D115
125 (7.6)	B34D125	B33D125	B34RD125DA	B3B4D125	B3B2D125
					



Note: To Know the maximum operating pressure consult the technical sheet.



THM
HYDRAULICS

ABER
Manufacturing Hydraulic Excellence since 1972

HYDRAULIC GEAR PUMPS B35 SERIES

64.5 cc/rot (3.9 in³/rot) to
154.2 cc/rot (9.4 in³/rot)

The B35 series brings another dimension to our range of products, it is a high performance pump, double support by taper roller bearings on the main shaft, built to endure extreme working conditions.

Having a high performance and endurance regarding it's size, it is the viable choice in the hydraulic oil pump solutions.



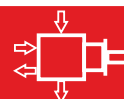
NEW B35 SERIES

**High Performance
Long Life Period
Stronger
Reinforced
Bidirectional**

B35 SERIES

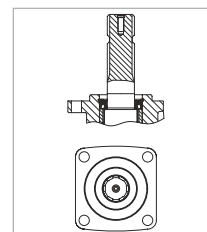
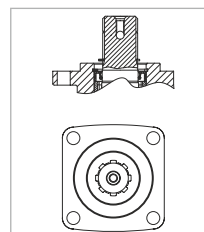


BIDIRECTIONAL



REAR INLET/OUTLET
SIDE INLET/OUTLET

DISPLACEMENT cc/rot (in ³ /rot)	MAXIMUM OPERATING PRESSURE bar (psi)	MAXIMUM CONTINUOUS ROTATION rpm	FLANGE AND AXLE OPTIONS	
			DIN 5462 ISO 7653 (EN)	DIN 9611 AGRICULTURAL (DA)
64.5 (3.9)	300 (4300)	2000	B354GTR64	B354GTR64DA
74.7 (4.5)	300 (4300)	2000	B354GTR74	B354GTR74DA
83.8 (5.1)	270 (3900)	1800	B354GTR84	B354GTR84DA
94.0 (5.7)	260 (3800)	1800	B354GTR94	B354GTR94DA
104.2 (6.3)	250 (3600)	1800	B354GTR104	B354GTR104DA
114.5 (7.0)	250 (3600)	1800	B354GTR114	B354GTR114DA
124.7 (7.6)	240 (3500)	1600	B354GTR124	B354GTR124DA
133.7 (8.1)	230 (3300)	1500	B354GTR134	B354GTR134DA
154.2 (9.4)	185 (2700)	1500	B354GTR154	B354GTR154DA



To order the UNI-DIRECCIONAL version, you must add "U" to the pump Ref.
Example: B354GTUR84

HYDRAULIC GEAR PUMPS WITH INTEGRATED VALVE PV SERIES



Sensitive Valve
Quick Relief
Efficient Cylinder Protection
Easy to Apply
Fast to Mount

82 cc/rot (5.0 in³/rot) to
102 cc/rot (6.2 in³/rot)

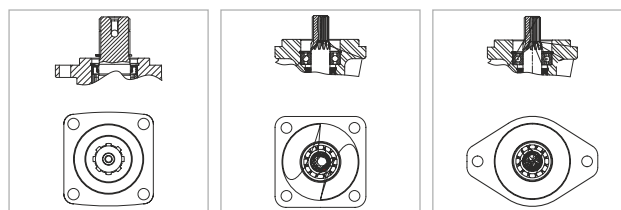
PATENTED



DISPLACEMENT	MAXIMUM OPERATING PRESSURE	MAXIMUM CONTINUOUS ROTATION	FLANGE AND AXLE OPTIONS		
cc/rot (in ³ /rot)	bar (psi)	rpm	DIN 5462 ISO 7653 (EN)	SAE B 4 BOLTS (B4)	SAE B 2 BOLTS (B2)

BSP THREADS

82 (5.0)	210 (3000)	1800	PV4S82P1	PVB4S82P1	PVB2S82P1
102 (6.2)	190 (2700)	1600	PV4S105P1	PVB4S105P1	PVB2S105P1



DISPLACEMENT	MAXIMUM OPERATING PRESSURE	MAXIMUM CONTINUOUS ROTATION	FLANGE AND AXLE OPTIONS	
in ³ /rot (gpm at 1000 rpm)	bar (psi)	rpm	SAE B 4 BOLTS (B4)	SAE B 2 BOLTS (B2)

NPTF THREADS

5.0 (22)	210 (3000)	1800	PVB4C22P1	PVB2C22P1
6.2 (27)	190 (2700)	1600	PVB4C27P1	PVB2C27P1



To order extra sensitive relief valve version, you must exchange P1 to P2 in the end of pump reference.
Example: PVB4C22P2

PV2R-1,2,3 series

Single vane pump
 R1 - 6.....31cc/rev
 R2 - 26.....75cc/rev
 R3 - 52.....153cc/rev
 Max pressure: 210 bar



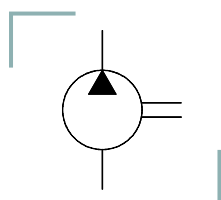
Features

- PV2R series high pressure vane pump with lower noise are the newly developed products with the integration of the advantages of similar products in recent years.
- With the features of rational structure, high performance, high efficiency, lower noise, small pulsation, strong reliability etc.
- The pumps provide extreme convenience for users and meet the substitution requirements for similar products with full specifications.
- National and international standard mounting dimensions, as well as derivative series mounting dimensions, making the pumps widely applied in the fields of machine tool industry, plastic machinery, forging machinery, engineering machinery, transportation machinery etc.
- The main internal spare parts of the pump are built in as cartridge, therefore the replacement can be easily done by simply changing the cartridge.

Ordering code

		PV2R1	*	F	1	R	A	A
Vane pumps codes		= PV2R1,, PV2R2, PV2R3						
Nominal displacement								
PV2R1		= 6, 8, 10, 12, 14, 17, 19, 23, 25, 28, 31						
PV2R2		= 26, 33, 41, 47, 53, 59, 65, 75						
PV2R3		= 52, 60, 66, 76, 85, 94, 116, 125, 136, 153						
Mounting type								
Flange mounting		= F						
Shaft extensions								
Major shaft standard		= 1						
Minor shaft		= 2						
Direction of rotation								
Clockwise from shaft end		= R						
Counter Clockwise from shaft end		= L						
Outlet position								
Upper from shaft end		= A						
R, B, L (Outlet Port A is set as upper)								
Inlet position								
Upper from shaft end		= A						
Bottom from shaft end		= B						
Right from shaft end		= R						
Left from shaft end		= L						

Graphic symbol



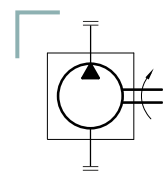
Technical data

Model	Theoretical Displacement (mLr)	Max. Operating Pressure Kgf/cm ²					Shaft driving speed (r/min.)		Weight (kg)
		Petroleum based Oil			Water-based synthetic hydraulic fluid		Max.	Min.	
		Particular pressure Oil	Anti-wear Oil	Common Oil	Anti-wear water-glyco	Sulphosuccinic ester fatty of acid			
PV2R1-6	6.1	210	175	150	150	160	1800 (1200)	750	8
PV2R1-8	8.1								
PV2R1-10	10.2								
PV2R1-12	12.3								
PV2R1-14	14.0								
PV2R1-17	16.3								
PV2R1-19	18.3								
PV2R1-23	22.5								
PV2R1-25	25.1								
PV2R1-28	27.6								
PV2R1-31	30.6								
PV2R2-26	25.4	210	175	140	160	140	1800 (1200)	600	16
PV2R2-33	32.2								
PV2R2-41	40.5								
PV2R2-47	46.2								
PV2R2-53	52.3								
PV2R2-59	58.2								
PV2R2-65	64.1								
PV2R2-75	74.5								
PV2R3-52	51.5	210	175	140	160	140	1800 (1200)	500	32
PV2R3-60	62.9								
PV2R3-65	67.0								
PV2R3-76	79.2								
PV2R3-85	84.5								
PV2R3-94	93.8								
PV2R3-116	113.2	175	160			140	1200	#34	
PV2R3-125	122.8								
PV2R3-136	135.8								
PV2R3-153	152.8								

Note :

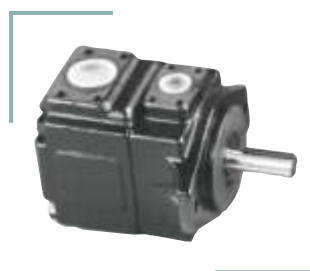
- The rotation speed shall not be less than 1450r/min for the pumps with the nominal displacement of 6mL/r or 8mL/r working under the pressure exceeding 16Mpa.
- The highest rotation speed shall be limited within 1200r/min while applying with water-based synthetic hydraulic fluids.
- It is recommended to work with rotation speed of 1000r/min and max. pressure of 12-14Mpa on the occasion/ condition of where lower noise is strictly required.
- Those pumps with the marks*belongs to the extension specification of PV2R2-W group. Those pumps with the marks # belong to the extension specification of PV2R3-Q group. These two groups pump casing are 10mm longer than usual specification for special order.
- The approximate calculation formula for driving power is as follows : the displacement of pump(mL/r) X the rotation speed of motor (r/min) X the working pressure (Mpa) 49000. The unit for the final calculation result is KW.





T6C Vane pump

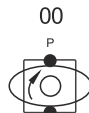
Fixed displacement vane pump
Single execution
Max. flow: 100 cm³/rev.
Max. pressure: 240 bar



Introduction

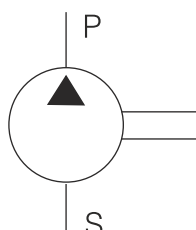
- T6C and T6D Series are fixed displacement and balanced type single vane pumps. The pump is designed for higher operating pressure and greater flow at the same housing size.
- With a balanced pin-vane design, outlet pressure is continuously applied only the pin. The pin provides the steady light force against the vane. Top and bottom areas of the vane are subject to the same pressure, either inlet or outlet pressure, depending on the van's location during rotor rotation. This pin-vane design minimizes noise level and improves volumetric efficiency.
- With the cartridge independent of the shaft, allowing for easy change of flow capacity and field servicing without removing the pump from its mounting.

Ordering code

T6C M B 012 2 R 00 B 1 **									
Vane pump "T6" series				Modifications					
Metric port connection, Omit for UNC = M				Seals class					
Bidirectional				1 = S1 (For mineral oil)					
				4 = S4 (For fire resistant fluids)					
				5 = S5 (For mineral oil & Fire resistant fluids)					
Cam ring				Design letter					
Volumetric displacement cm ³ /rev				Porting combinations					
10.8 = *003/B03				Standard					
17.2 = 005/B05				00 = 					
21.3 = 003/B03				01 = 					
26.4 = 008/B08				02 = 					
34.1 = 010/B10				03 = 					
37.1 = 012/B12				S- Suction port, P- Pressure port					
46.0 = 014/B14				Rotation (View from shaft end)					
50.5 = 015/B15				R = Clockwise					
58.3 = 017/B17				L = Counter-Clockwise					
63.8 = 020/B20				Types of shaft					
70.3 = 022/B22				1 = keyed (SAE B)					
79.3 = 025/B25				2 = keyed (non SAE)					
88.8 = 028/B28				3 = splined (SAE B)					
100.0 = 031/B31				4 = splined (SAE BB)					
* '0' - Uni-directional 'B' - Bi-directional									

Graphic Symbol

Single pump



Monoblock directional control valve

P40

Hydraulic directional control valves
Max. operating pressure up to 250 bar
Nominal flow up to 40 lpm



Specifications

Valve monoblock	Valve monoblock
Mounting	2 bolts M8
Pressure connections	internal thread
Ambient temperature	-40°C~ +60°C
Pressure medium	Mineral oil based hydraulic oil
Viscosity	12...800mm²/s permissible range, 20...100mm²/s recommended range
Fluid temperature	-15°C... +80°C
Filtration	Oil contamination 10 to NAS1638
Max. operating pressure	P= 250bar T= 50bar A,B = 300bar
Leakage	15cm³/min at 120bar
Nominal flow	40l/min(see "operating" diagram)
Spool stroke	±6mm
Actuating force	<200N in spool axis direction

Ordering code

	T	0	*	P40	R	1	A	1	A	1	G	KZ1	T	H	E	C2	11	1X
THM make																		
Block with common check valve																		
Number of spools																		
Directional control valve type																		
Inlet high pressure-right																		
Way of distribution/parallel or																		
First spool distribution type																		
Spool control/detend and ets.																		
Second spool distribution type																		
Spool control/detend and ets.																		
Ports/treads/																		
General operation feature																		
With "dedent"																		
Operation feature/pneumatic,....																		
With electric switch																		
High pressure carry over																		
Connection ports in use																		

Monoblock directional control valve

P80

Hydraulic directional control valves
Max. operating pressure up to 250 bar
Nominal flow up to 80 lpm



Specifications

Valve monoblock	Valve monoblock
Mounting	3 bolts M8
Pressure connections	internal thread
Ambient temperature	-40°C~+60°C
Pressure medium	Mineral oil based hydraulic oil
Viscosity	12...800mm ² /s permissible range, 20...100mm ² /s recommended range
Fluid temperature	-15°C...+80°C
Filtration	Oil contamination 10 to NAS1638
Max. operating pressure	P= 250bar T= 50bar A,B = 300bar
Leakage	6cm ³ /min at 100bar
Nominal flow	80 l/min(see "operating" diagram)
Spool stroke	±7mm
Actuating force	<200N in spool axis direction

Ordering code

	T	0	*	P80	R	1	A	1	A	1	G	KZ1	T	H	E	C2	11	1X
THM make																		
Block with common check valve																		
Number of spools																		
Directional control valve type																		
Inlet high pressure-right																		
Way of distribution/parallel or																		
First spool distribution type																		
Spool control/detend and ets.																		
Second spool distribution type																		
Spool control/detend and ets.																		
Ports/treads/																		
General operation feature																		
With "dedent"																		
Operation feature/pneumatic,....																		
With electric switch																		
High pressure carry over																		
Connection ports in use																		

Monoblock directional control valve

P120

Hydraulic directional control valves
Max. pressure up to 250 bar
Nominal flow up to 120 l/min.



Specifications

Valve monoblock	Valve monoblock
Mounting	3 bolts M10
Pressure connections	internal thread
Ambient temperature	-40°C ~ +60°C
Pressure medium	Mineral oil based hydraulic oil
Viscosity	12...800mm ² /s permissible range, 20...100mm ² /s recommended range
Fluid temperature	-15°C...+80°C
Filtration	Oil contamination 10 to NAS1638
Max. operating pressure	P= 250bar T= 50bar A,B = 300bar
Leakage	30cm ³ /min at 120bar
Nominal flow	120 l/min(see "operating" diagram)
Spool stroke	± 10 mm, L12 = ± 10 mm +6 mm
Actuating force	<300N in spool axis direction

Ordering code

	T	02	P120	1	A	1	A	1	G	KZ1	H	E	C2	11
THM make														
Number of spools														
Directional control valve type P120														
Way of distribution/parallel														
Spool type distribution														
Spool control														
Second spool distribution														
Second Spool control														
Ports threads														
Lever options														
Operation feature														
Electric microswitch														
Carry over center														
Connection ports in use														

Monoblock directional control valve

SD4

Monoblock Directional control valve

Flow: 45 l/min

Working pressure: 250 bar



Features

- Simple, compact designed, this valve is only one section for open centre and closed centre hydraulic systems.
- Fitted with a main pressure relief valve.
- Diameter 16 mm interchangeable spools.
- Available manual and remote with flexible cables spool control kits. (Please contact us for more details)

Working condition

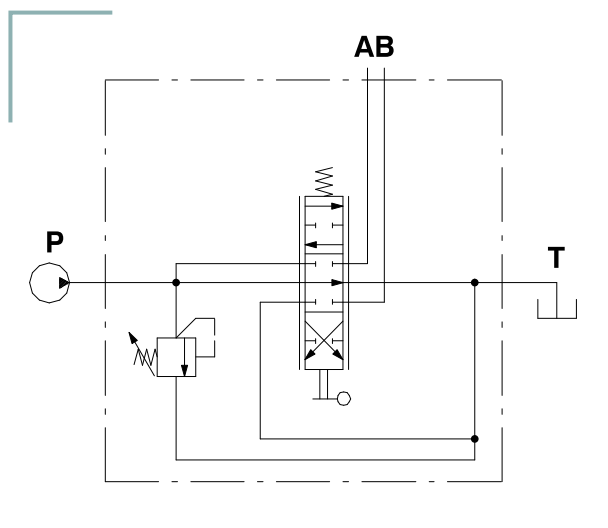
This shows technical specifications and diagrams measured with mineral oil of 46 mm²/s - 46 cSt viscosity at 40°C temperature.

Nominal flow rating		45 l/min
Operating pressure (maximum)		250 bar
Back pressure (maximum)	on outlet port T	25 bar
Internal leakage A(B)→T	$\Delta p = 100$ bar fluid and valve at 40°C -- 104°F	3 cm ³ /min
Fluid		Mineral base oil
Fluid temperature	with NBR (BUNA--N) seals	from -20° to 80°C
	with FPM (VITON) seals	from -20° to 100°C
Viscosity	operating range	from 15 to 75 mm ² /s
	min.	12 mm ² /s
	max.	400 mm ² /s
Max level of contamination		19/16 - ISO 4406
Ambient temperature		from -40° to 60°C

NOTE: For different conditions please contact **THM**.

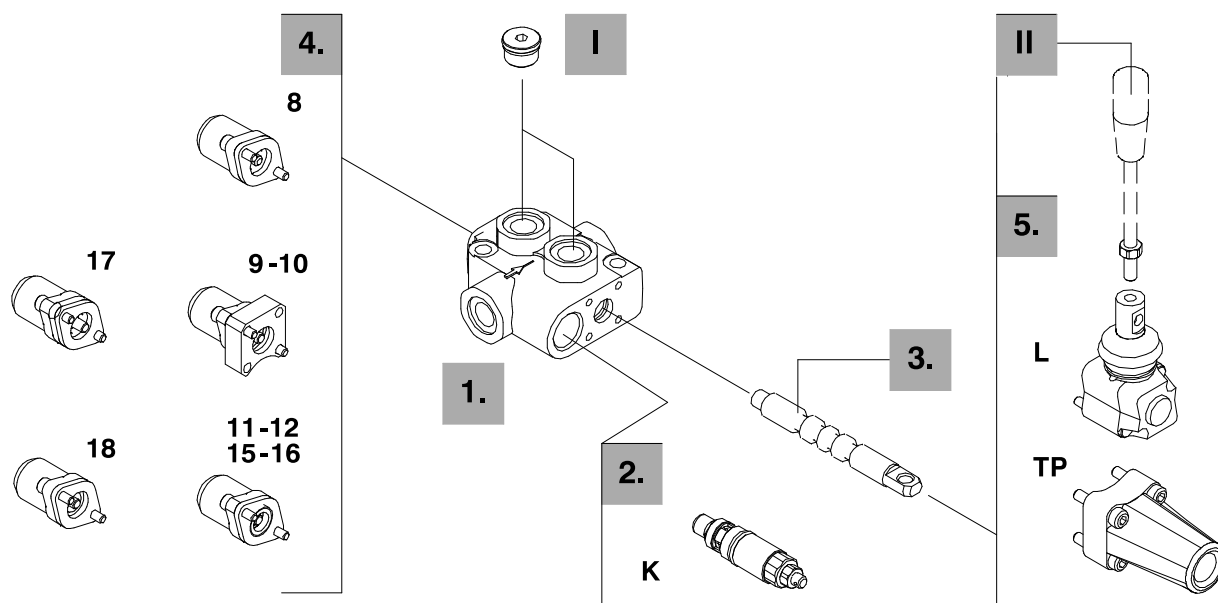
Hydraulic Circuit

- Standard valve is supplied with positive overlap spool (1CP).



Monoblock directional control valve

Ordering code



• Example:

SD4 / 1 (KG3-120) / 1CP 8 L *

1. 2. 3. 4. 5.

Pressure relief valve setting in bar

1. Body kits*

TYPE	DESCRIPTION
1	1 section

Include boby and seals.

2. Inlet relief options

TYPE	DESCRIPTION
(KG2-80)	Range 40 to 80bar standard setting 80bar
(KG3-120)	Range 63 to 200bar standard setting 120bar
(KG4-220)	Range 160 to 250bar standard setting 220bar

3. Spool options

TYPE	DESCRIPTION
1CP	Double acting with positive overlap, 3 positions, A and B closed in neutral position
1N	Double acting, 3 positions, A and B closed in neutral position, negative overlap
2	Double acting, 3 positions, with A open to tank in neutral position
3	Single acting on A, 3 positions, B plugged; requires G3/8 plug (see part I)
4	Single acting on B, 3 positions, A plugged requires G3/8 plug (see part I)
6	Double acting, 3 positions, closed center
7	Double acting, 3 positions, closed center with A and B to tank in neutral position.

4. "A" side spool positioners

TYPE	DESCRIPTION
8	With spring return in neutral position
9	With detent in position 1
10	With detent in position 2
11	With detent in position 1, neutral and 2
12	With detent in position 1 and 2
15	With detent in position 1 and neutral
16	With detent in position 2 and neutral
17	With spring return position 1
18	With spring return position 2

5. "B" side options

TYPE	DESCRIPTION
L	Standard lever box
TP	Cable connection

I. Port plug *

TYPE	DESCRIPTION
G3/8	Plug for single acting spool

II. Optional hand lever

TYPE	DESCRIPTION
AL01/ M8X120	Standard handlever L= 120mm

NOTE (*) - Items are referred to **BSP** thread.

Sectional directional control valve

SD8

Sectional directional control valve
Max. pressure up to 315 bar
Max. flow up to 90 l/min.



Features

- Simple, Compact and heavy duty designed sectional valve from 1 to 14 sections for open and closed center hydraulic systems.
- Fitted with a main pressure relief valve and a load check valve on every working section.
- Available in manual control only.
- Optional carry-over port.
- A wide range of port and circuit valves.
- Intermediate sections for several types of circuit.
- Diameter 18mm interchangeable spools.
- Available with parallel, tandem or series circuit.

Working Conditions

Technical specifications and diagrams measured with mineral oil of 46mm²/s viscosity at 40°C temperature.

Nominal flow rating		90 l/min.
Max. pressure		315 bar
Back pressure (max.)	On outlet T port	25 bar
Internal leakage A(B)→T (standard) $\Delta p=100$ bar		3 cm ³ /min.
Fluid		Mineral base oil
Fluid temperature	With NBR seals	from -20°C to 80°C
	With FPM seals	from -20°C to 100°C
Viscosity	Operating range	from 15 to 75mm ² /s
	Min.	12 mm ² s
	Max.	400 mm ² s
Max. contamination level		-/19/16-ISO 4406
Environmental temperature for working conditions		from -40°C to 60°C
Tie rod tightening torque (wrench 13)		30 Nm

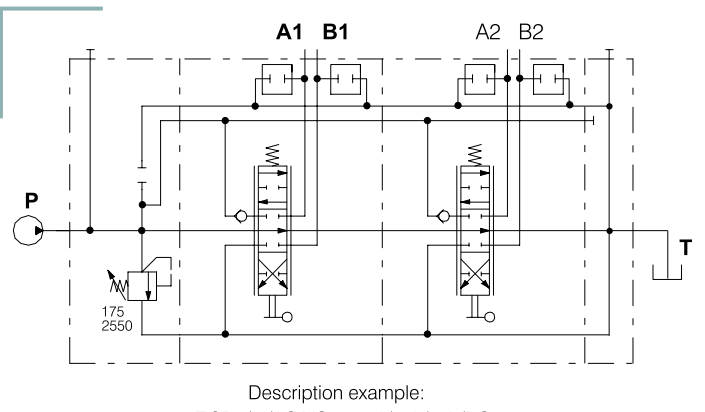
Port Threading

Main Ports	BSP	UN-UNF	METRIC
P inlet	G 1/2	7/8-14 (SAE10)	M18x1.5
A and B ports	G 1/2	3/4-16 (SAE 8)	M18x1.5
T outlet and C carry-over	G3/4	7/8-14 (SAE 10)	M22x1.5
Pilot Ports			
Hydraulic	G 1/4	9/16-18 (SAE 6)	G1/4
Pneumatic	NPTF 1/8-27	NPTF 1/8-27	NPTF 1/8-27

Hydraulic circuit

Parallel circuit

Standard configuration with open centre and side inlet and outlet.



Ordering code

T-SD8/ 2 / AC(YG3-175) / 18L / 18L / RC -

No. of working
sections

1

2

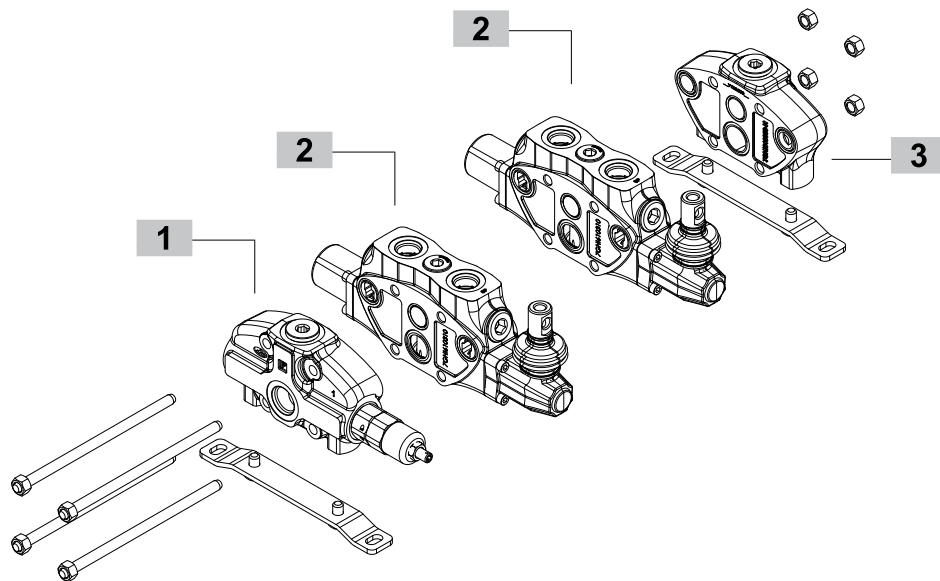
3

2

2

1

3



1. Inlet section

AC(YG3-175) : Side inlet with direct pressure relief valve on the left hand side.

2. Working section

18L : Parallel circuit, double acting spool with spring return, lever control

3. Outlet section

RC : With side outlet on the right hand side.

DCV Series

Sectional Directional Control Valve

Flow 140 & 200 l/min

Pressure up to 350 bar



Features

- DCV directional control valve is designed for high pressure hydraulic system such as drilling machine, sanitation etc.
- Auxiliary valve: over-load valve, anti-cavitation valve, combined valve etc. (not for DCV40-45).
- Control type: manual, joystick, cable, pneumatic, solenoid, electro-pneumatic, electro-hydraulic etc.
- Structure: monoblock, sectional.
- Carry-over port as hydraulic source for other parts.

Specifications

Model		DCV140	DCV200
Nominal flow rate	l/min	140	200
Max. pressure	bar	350	350
Operating range	mm ² /s	15~75	15~75
Viscosity	Minimum mm ² /s	12	12
	Maximum mm ² /s	400	400
Ambient temperature range (°C)		-40~80	-40~80
Structure - Monoblock		1~12 sections	1~12 sections

Ordering code

[illegible]

Solenoid directional control valve

Z50

Solenoid directional control valve

Spools: 1 to 6

Max Flow up to 50 Lpm

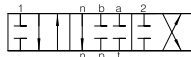
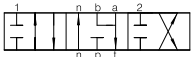
Max. Pressure up to 315Bar



Features

- Built-in check valve: The check valve inside the valve body is to ensure the hydraulic oil does not return.
- Built-in relief valve: The relief valve inside the valve body is provided to adjust the hydraulic system working pressure.
- Oil way: Parallel circuit, power beyond option
- Coils, Connector ISO4400: 12VDC, 24VDC
- Threads: PT ports - G1/2", A,B ports - G3/8"
- Valve construction: Monoblock construction, 1-7 spools.
- Bores are honed precisely and fine spool grinding results in less cross-port leakage and hence less heat generated.

Ordering code

Z50		A	ES3	12VDC	G
Monoblock directional control valve:					
1 Spool	= Z50				
2 Spool	= 02Z50				
3 Spool	= 03Z50				
4 Spool	= 04Z50				
5 Spool	= 05Z50				
6 Spool	= 06Z50				
Spool options:					
Double acting, 3 positions with A and B closed in neutral position		= A			
Double acting, 3 positions with A and B open to Tank in neutral position		= D			
Code	Spool Type	Code	Spool Type		
A		D			
Control Kit:					
Single acting P - A with spring return in neutral position			= ES1		
Single acting P - B with spring return in neutral position			= ES2		
Double acting P - A(B) with spring return in neutral position			= ES3		
Coils with connector ISO4400:					
Nominal Voltage 12VDC				= 12VDC	
Nominal Voltage 24VDC				= 24VDC	
Port size:					
PT - 1/2", AB - 3/8"					= G

Technical data

Nominal Pressure (Bar)	Maximum Pressure (Bar)	Nominal Flow rate (L/min)	Maximum Flow rate (L/min)	Back Pressure (Bar)	Hydraulic Oil		
					Temperature range (°C)	Visc. range (mm²/s)	Filtrating accuracy (µm)
200	315	40	50	≤1	-20 ~ +80	10 ~ 400	≤1

2-Way Cartridge valves - Directional function

LC

2-way cartridge valves - directional function

Size 16 to 63

Max. pressure up to 420 bar

Max. flow up to 25000L/min

Features

- Valve poppet with or without damping nose 2 area ratios
- 4 different control spring options
- 4 stroke limiting options
- Control cover with built-in poppet valve
- Control cover with built-in shuttle valve
- Control cover for mounting directional spool valves with or without built-in shuttle valve
- Control cover for mounting directional poppet valves with or without built-in shuttle valve



Ordering code

Series 7X

Nominal size 16 = 16

Nominal size 25 = 25

Nominal size 32 = 32

Series 6X

Nominal size 40 = 40

Nominal size 50 = 50

Nominal size 63 = 63

Area ratio 2:1 (annulus area = 50%) = A

Area ratio 14.3:1 (annulus area = 7%) = B

Cracking pressure¹⁾

Cracking pressure approx. (0 bar) (without spring) = 00

Cracking pressure approx. (0.5 bar) = 05

Cracking pressure approx. (1.0 bar) = 10

Cracking pressure approx. (2 bar) = 20

Cracking pressure approx. (3 bar) (only size 125) = 30

Cracking pressure approx. (4 bar) = 40

LC	A	10				
----	---	----	--	--	--	--

No code =

V =

Seals

NBR seals

FPM seals

(other seals on request)

Attention!

The compatibility of the seals and fluid has to be taken into account!

Series

7X = (Sizes 16 to 32) Series 70 to 79 (70 to 79: unchanged installation and connection dimensions)

6X = (Sizes 40 to 63) Series 60 to 69 (60 to 69: unchanged installation and connection dimensions)

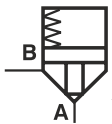
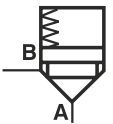
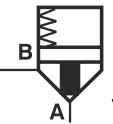
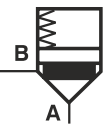
E =

Valve poppet without damping nose

D =

Valve poppet with damping nose

Symbols

Without damping nose		With damping nose	
 Area ratio A1 : A2 = 2 : 1 Version ...A..E../...	 Area ratio A1 : A2 = 14.3 : 1 Version ...B..E../...	 Area ratio A1 : A2 = 2 : 1 Version ...A..D../...	 Area ratio A1 : A2 = 14.3 : 1 Version ...B..D../...

Technical data

Pressure fluid	Mineral oil (HL, HLP) to DIN 51 524 ¹⁾ Fast bio-degradable pressure fluids to VDMA 24 568 HETG ¹⁾ ; HEPG (polyglycol) ²⁾ ; HEES (synthetic ester) ²⁾ ; other fluids on request
1) suitable for NBR and FPM seals 2) only suitable for FPM seals	
Pressure fluid temperature range	-20 to +80
Viscosity range	2.8 to 380
Degree of contamination	Maximum permissible degree of contamination of the fluid is to NAS 1638 class 9. Therefore, we recommend a filter with a minimum retention rate of $\beta_{10} \geq 75$.
Max. operating pressure for connection A, B, X, Z1, Z2	420 (without built-on directional valve) 315 / 350 / 420 : p_{max} of the built-on directional spool valve max 420 p_{max} of the built-on directional poppet valve
Operating pressure for connections Y	Dependant to the tank pressure of the pilot valve

2-Way Cartridge valves - Relief function

LC

2-way cartridge valves - Relief function

Size 16 to 63

Max. pressure up to 420 bar

Max. flow up to 7000L/min

Ordering code

LC		DB				
----	--	----	--	--	--	--

Series 7X

size 16 = 16

Size 25 = 25

size 32 = 32

Series 6X

size 40 = 40

size 50 = 50

size 63 = 63

Cracking pressure

Cracking pressure 0 PSI (0 bar) (without spring) = 00

Cracking pressure 29 PSI (2.0 bar) = 20¹⁾

Cracking pressure 58 PSI (4.0 bar) = 40

Cracking pressure 72.5 PSI (5.0 bar) = 50

Cracking pressure 116 PSI (8.0 bar) = 80



No code =

V =

NBR seals

FPM seals

(other seals on request)

⚠ Attention!

The compatibility of the seals and pressure fluid has to be taken into account!

6X =

Sizes 40 to 63 Series 60 to 69
(60 to 69: unchanged installation and connection dimensions)

7X =

Sizes 16 to 32 Series 70 to 79
(70 to 79: unchanged installation and connection dimensions)

E =

Poppet valve

D =

Poppet spool valve

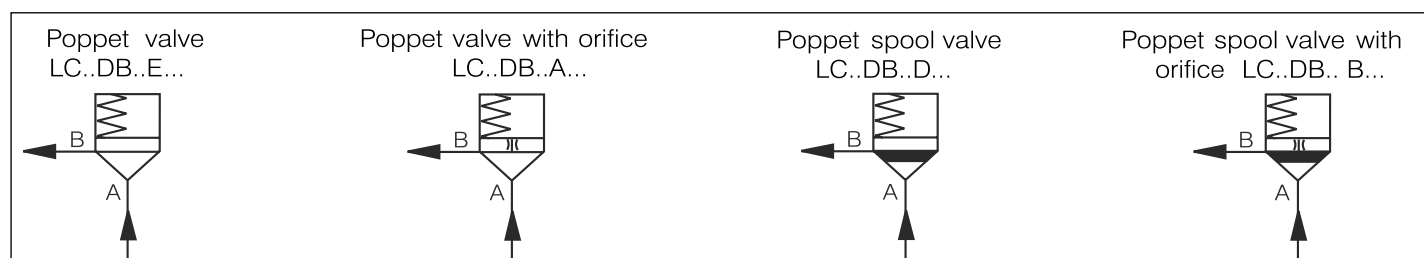
A =

Poppet valve with orifice

B =

Poppet spool valve with orifice

Symbols



Technical data

Pressure fluid 1) suitable for NBR and FPM seals suitable for FPM seals		Mineral oil (HL, HLP) to DIN 51 524 ¹⁾ ; Fast bio-degradable pressure fluids to VDMA 24 568 HETG (rape seed oil) ¹⁾ ;only HEPG (polyglycol) ²⁾ ; HEES (synthetic ester) ²⁾ ; other fluids on request							
Pressure fluid - temperature range	°C	– 30 to + 80 NBR seals – 20 to + 80 FPM seals							
Viscosity range	mm²/s	2.8 to 380							
Degree of fluid contamination		Maximum permissible degree of contamination of the fluid is to NAS 1638 class 9. We, therefore, recommend a filter with a minimum retention rate of $\beta_{10} \geq 75$.							
2-way cartridge valve									
Max. operating pressure at ports A and B	bar	up to 420							
Nominal size		16	25	32	40	50	63	80	100
Max. flow (recommendation) Poppet valve insert LC..DB..E../.. LC..DB..A..	l/min	300	450	600	1000	1600	2500	4500	7000
Spool valve insert LC..DB..D../.. LC..DB..B..	l/min	175	300	450	700	1400	1750	3200	4900

Check Valve type S

Size 6 to 30

Max pressure: 315 bar

Flow up to 400 L/min

Features

- For threaded connection (screw in connection)
- Subplate mounting
- Leakage free closure in one direction
- Various cracking pressures, optional (see ordering details)



Ordering code

Check valve				= S											
Size	A	P	K												
6	6	-	6												
8	8	-	8												
10	10	10	10												
15	15	-	15												
20	20	20	20												
25	25	-	25												
30	30	30	30												

Subplate mounting				= P											
Threaded connection				= A											
Cartridge connection				= K											

No code =				Mineral oils											
V =				Phosphate ester											
B =				The Technology of Beijing Huade											
0 =				Series 0											
1 =				Screw only type A											
2 =				British											
				Metric											

0 =				Cracking pressure											
1 =				Without spring											
2 =				0.5 bar											
3 =				1.5 bar											
5 =				3 bar											
				5 bar											

Ordering code of check valve cartridge

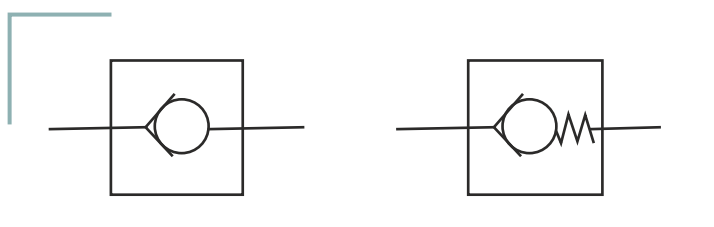
A straight-through cartridge

Size	K1	K2	K3
6	301889	301896	301903
8	301890	301897	301904
10	301891	301898	301905
15	301892	301899	301906
20	301893	301900	301907
25	301894	301901	301908
30	301895	301902	301909

A straight-angled cartridge

Size	K1	K2	K3
6	301910	301917	301924
8	317701	317702	317703
10	301912	301919	301926
15	317704	317705	317706
20	301914	301921	301928
25	301915	301922	301929
30	301916	301923	301930

Graphic Symbol



Pilot operated check valve



THPLK

Pilot operated check valve
Max pressure 315 bar
Max flow 150 l/min



Features

- Flow is allowed to pass from V1 to C1 when pressure at V1 rise above the Spring bias pressure and the poppet is pushed from its seat.
- The valve is normally closed (checked) from V1 to C1; When sufficient pilot pressure is present at X port, the pilot piston acts to push the poppet from its seat and flow is allowed from C1 to V1.
- Precision machining and hardening processes allows virtually leak free performance in the checked conditions.

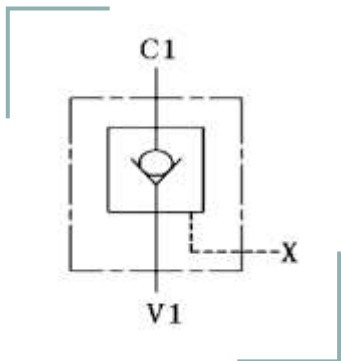
Specifications

Model	THPLK-G1/4-20	THPLK-G3/8-35	THPLK-G1/2-50	THPLK-G3/4-100	THPLK-G1-150
Max flow rate (l/min)	20	35	50	100	150
Max Operating pressure (bar)	315				
Pilot ratio	4.7:1	4.4:1	4.6:1	3.8:1	3.2:1
Valve body (material) Surface treatment	(Steel body) Surface clear zinc plating				
Oil Cleanliness	NAS1638 class9 and ISO 4406 class 20/18/15				

Ordering code

THPLK — G1/4 — 20			
Line mounting single pilot operated check valve			
Thread Size			Flow (l/min)
1/4"	= G1/4	20 =	20
3/8"	= G3/8	35 =	35
1/2"	= G1/2	50 =	50
3/4"	= G3/4	100 =	100
1"	= G1	150 =	150

Graphic symbol



DB...K

Pilot operated Pressure relief valve

Cartridge connection

Size: 6, 10, 20

Max pressure 315 bar

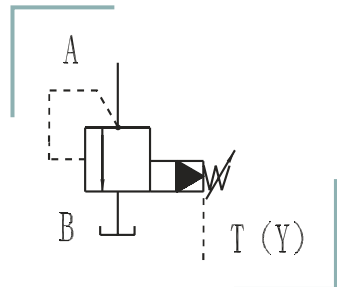
Max flow 330 l/min

Features

- Cartridge valve
- 4 pressure ranges
- 4 adjustment elements
 - Rotary knob
 - Sleeve with hexagon and protective cap
 - Lockable rotary knob with scale
 - Rotary knob with scale



Graphic Symbol



Ordering code

Pressure relief valve	= DB								No code =	Mineral oils
Nominal size 6	= 6								V =	Phosphate ester
Nominal size 10	= 10									
Nominal size 20	= 20									
Cartridge valve	= K								Y = Pilot oil supply internal, drain external	
									XY = Pilot oil supply external, drain external	(only to DB20K)
Adjustment element	= 1								50 =	Pressure Adjustable up to 50 bar
Rotary knob	= 2								100 =	Pressure Adjustable up to 100 bar
Sleeve with hexagon and protective cap	= 3								200 =	Pressure Adjustable up to 200 bar
Lockable rotary knob with scale	= 7								315 =	Pressure Adjustable up to 315 bar
Series 40 to 49	= 40 (size 6&10)									
Series 10 to 19	= 10 (size 20)								B =	The Technology of Beijing Huade

Specifications

Nominal Size	6	10	20
Pressure fluid	Minera oil (for NBR seal), or phosphate ester (for FPM seal)		
Pressure fluid- temperature range °C	-30 to +80		
Viscosity range mm²/s	10 to 800		
Degree of fluid contamination	Maximum permissible degree of contamination of the fluid is to NAS 1638 class 9		
Operating pressure max. bar	up to 315 bar		
Pressure adjustable max. bar	up to 50, up to 100, up to 200, up to 315		
Flow max L/min	up to 60	up to 100	up to 30
Weight Kg	approx 0.15	approx 0.2	approx 0.35

MG/MK

Throttle and Throttle check valve

Size: 6 to 30

Max pressure 315 bar

Max flow up to 400 l/min



Features

- Suitable for direct in-line mounting
- Pressure and viscosity dependent

Ordering code

Throttle valve	= MG								
Throttle check valve	= MK								
Size									
6	= 6								
8	= 8								
10	= 10								
15	= 15								
20	= 20								
25	= 25								
30	= 30								
For thread connection	= G								
Series 1.2	= 1.2								
Technology of Beijing Huade Hydraulic	= B								
British	= No code								
Metric	= 2								
Mineral oils	= No code								
Phosphate ester	= V								
Further details in clear text									

Specifications

Size		6	8	10	15	20	25	30
Max flow	L/min	15	30	50	140	200	300	400
Pressure	bar	up to 315						
Cracking pressure	bar	0.5 (Type MK)						
Pressure fluid		Mineral oil or phosphate ester						
Viscosity range	mm ² /s	10 to 800						
Pressure fluid temperature range	°C	-30 to +80						

KHB / KHM

Ball valves

Nominal pressure 500 bar

Features

- THM 2-way High pressure Ball Valves are of a compact construction.
- Working temperature depending upon sealing material - 20°C to + 250°C.
- Easy handling even at high pressure (switching through 90°).
- Working pressure up to 450bar.
- Individual pressure testing of valves ensures safety.
- If the ball valve are to be used for gas, oxygen or any other special application, please give full details when ordering with temperature and pressure.
- Are also manufactured in stainless steel.



Ordering code

Model code	KHB	G1/2	1112	01	X	A	ISO940	
Block-type ball valve DN 04-25	= KHB							
Sleeve type ball valve D N 32-50	= KHM							
Type of connection Thread size or outside diameter of pipe and type of connection								
Material Housing, Connection adapters								
Steel	= 1							
Stainless steel	= 3							
Ball, Control spindle								
Steel	= 1							
Stainless steel	= 3							
Hardened steel	= 11							
Sealing cups								
POM	= 1							
PTFE (max. operating pressure 100 bar)	= 3							
PEEK	= 8							
Steel	= 11							
Control spindle seals and connection seals								
NBR (Perbunan)	= 2							
PTFE (max. operating pressure 100 bar)	= 3							
FKM (Viton)	= 4							
								Option
								No code = Ball valve without holes
								TT = O-rings for low temperatures, temperature range from -40°C to +80°C (only for stainless steel version)
								ISO 940 = Ball valve with 4 fixing holes (for example, panel mounting)
								ISO 1073 = Ball valve with 2 through holes
								Surface protection
								A = Zinc-plated, chrome
								ZN = Zinc-nickel, chrome
								Series (determined by manufacturer)
								Type of connection
								01 = Aluminium clamped handle, straight DN 12 - 50
								02 = Aluminium clamped handle, cranked DN 12 - 50
								03 = Zinc die-cast clamped handle, straight DN 04 - 10, 13
								04 = Zinc die-cast bolt-on handle, cranked DN 04 - 10, 13
								06 = Steel bolt-on handle, cranked DN 12 - 50
								09 = Without handle
								26 = Steel bolt-on handle, cranked, long DN 12 - 50

Specifications

Type of construction	Block type KHB DN 04 - 25
	Sleeve type KHM DN 32 - 50
Types of connection	Light and heavy threaded pipe connection to DIN 2353
	Whitworth female thread to ISO 228
	NPT
	SAE
Mounting position	Optional
Ambient temperature	-10°C to +80°C
Nominal pressure	up to PN 500 / 500 bar
Operating fluids	Mineral oil to DIN 51524 Part 1 and Part 2 (other fluids on request)
Temperature of operating fluid	-10°C to +80°C
Type of construction	Shut-off device is a ball
Weight	See table
Flow direction	Optional
Spare parts	Seal kits available on request
Accessories	All ball valves can be supplied with the following options: Actuator Limit controls Lock

OSPT

Hydraulic Steering Unit
Displacement: 50 to 400cc/rev
Max pressure up to 175 bar
Max flow 40lpm



Features

- High efficiency, long service life.
- Compact & Convenient
- Low pressure drops & Steering torque
- Ports available to DIN, ISO or SAE
- Sizes 50 to 400cc/rev
- Available with built in valve functions shock, inlet check, suction & relief valves
- According to European & US standards
- Extensively used in forklift trucks, tractor, Combines & loaders

Ordering code

OSPT	N1	-100	01/	A	140	T3	N
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Steering control unit

Open center non reaction = N1
Open center reaction = R1

Displacement cc/rev

50	= 50
63	= 63
80	= 80
100	= 100
125	= 125
160	= 160
200	= 200
250	= 250
280	= 280
315	= 315
400	= 400

Series

= 01

N = NBR (Buna-N) Seal
V = FPM (Viton) Seal

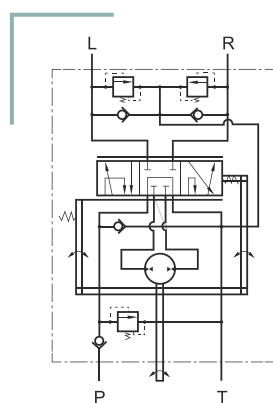
Thread port details
T1-T2-T3-T4-T5-T6-T7

relief valve pressure (bar)
60, 80, 100, 120, 140, 160
Shock valves pressure (bar)
200, 220

Valve Options

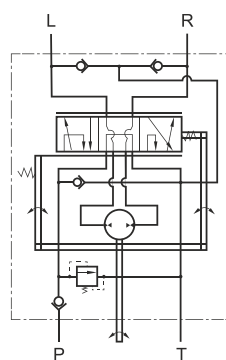
A = relief valve+shock valves+suction valves
B = relief valve+shock valves
C = relief valves+suction valves
D = shock valves+suction valves
E = suction valves

Graphic symbol



OSPT-N1

Open center non-reaction

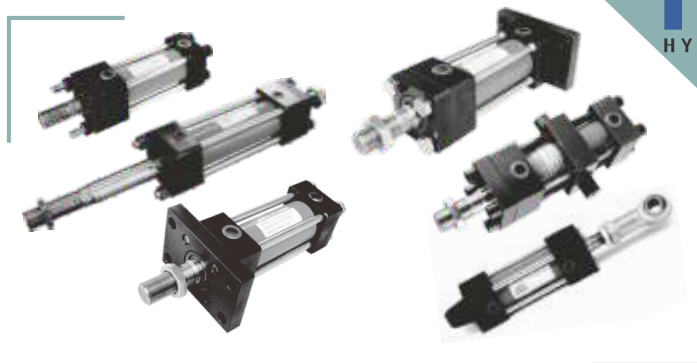


OSPT-R1

Open center reaction

THM-OB/OD Series

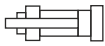
OB Single Rod end/ OD Double Rod end
Medium Duty Tie Rod
Hydraulic Cylinder for Industrial Applications
Working pressure 140 bar

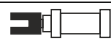
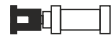
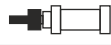
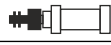
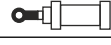
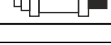


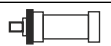
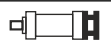
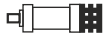
Features

Bore Size	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125	Ø150	Ø180	Ø200
Working medium	Clean Standard Hydraulic Oil								
Cylinder Barrel Material	20# Carbon steel/304								
Working pressure range	8-140 bar, Testing pressure: 160bar								
Temperature Range	-10-+60(°C)								
Speed Range	0-300(mm/s)								
Standard Piston Length (PM)	30	35	35	50	60	65	65	90	90
Piston Length (PM) 1501-2500mm	60	70	70	80	100	100	100	140	140
Piston length (PM) 2501-4000mm	120	140	140	150	180	180	180	200	200

Ordering code

THM-OB										R	D	63	35	100	LB	Y	140 bar
Type																	
Standard				= THM-OB													
Double				= THM-OD													
Without magnet				= No code													
With magnet				= R													
No Sign				= No Code													
Both ends				= D													
Head				= F													
Cap				= B													
Bore				= Ø40, Ø50, Ø63, Ø80, Ø100, Ø125, Ø150, Ø180, Ø200													
Standard				= Ø25, Ø30, Ø35, Ø40, Ø50, Ø60, Ø80, Ø100, Ø100													
Max.				= -, Ø35, Ø40, Ø50, Ø60, Ø80, Ø100, Ø120, Ø120													
Stroke																	
Standard Stroke				= 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000													
																	

Piston rod end connecting type		
Y	Female Rod Clevis	
YP	Female Rod Clevis + PIN	
I	I Connecting	
KG	Float Connecting	
PHS	Spherical Rod eye	
T	T Connecting	
H	Welded Bushing	
A	Adjustable Nut	

Cylinder mounting		
FA	Front Flange	
FB	Cap Flange	
LB	Side end angles	
TC	Intermediate Fixed Trunnion	
TA	Front Trunnion	
LA	Side lugs	
CA	Detachable eye	
CB	Detachable Clevis	
CBP	CB PIN	
CAB	CA + P + CB	



Air-Oil Cooler
Flow: 60L/min to 350L/min
Working pressure: 35 bar



- **Applicable for:** The cooling of the discharge pipe of variable pump, return pipe of hydraulic system, independent cooling circuit and lubricating system.
- **Used in:** Machines tools, Special-purpose machinery, engineering machinery, tunnel and port machinery, hydraulic power station and lubricating system.

- The product is designed to achieve the best cooling effect with 35bar dynamic rated pressure, high-performance electronic axial flow fan and tightly structured high-efficiency fan.
- Single-fan cooling or double-fan cooling is available according to the heat generation of the system.
- Standard for oil inlet and outlet: BSP screw thread, other threads can be custom-made.
- **Operating voltage:** AC 110V, AC 220V, AC 380V, DC 12V and DC 24V.
In case that special voltage is required, please contact THM

AH	1012	**	-	FM	A2	-	**	-	10
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Wind suction type(standard type, default)	= 10
Wind Blowing type	= 20

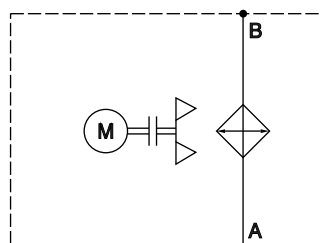
Technical data

Cooler type	Maximum flow (l/min)	Working pressure (Bar)	Cooling Capacity (KW)	Power Consumption(W)		Fan rotating speed (rpm)	Noise (dB)	Maximum oil temperature (°C)	Maximum Viscosity (mm²/s)	Maximum flow (l/min)
				AC fan (AC220V)	AC fan (AC380V)					
AH0608-FM	60	35	1.39	38	45	2700	50	130	2000	6
AH1012-FM	100	35	5.47	60	60	1300	65	130	2000	15
AH1417-FM	150	35	14	130	115	1420	69	130	2000	25
AH1470-FM	200	35	17.9	130	115	1420	69	130	2000	28
AH1490-FM	250	35	23.3	130	115	1420	69	130	2000	35
AH1680-FM	300	35	30.2	160	135	1400	73	130	2000	42
AH1890-FM	350	35	40.7	250	200	1400	75	130	2000	48
AH0608L-FM	60	35	3	38*2	45*2	2700	53	130	2000	11
AH0845L-FM	80	35	5.4	60*2DC	60*2DC	3000	60	130	2000	12
AH1012L-FM	100	35	12.3	60*2	60*2	1300	68	130	2000	25
AH1470L-FM	200	35	31.4	130*2	115*2	1420	72	130	2000	48
AH1490L-FM	250	35	40	130*2	115*2	1420	72	130	2000	55
AH1680L-FM	300	35	49.4	160*2	135*2	1400	76	130	2000	70
AH1890L-FM	350	35	77.9	250*2	200*2	1400	78	130	2000	97

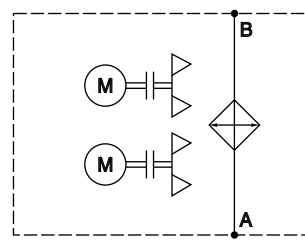
- Cooling capacity: cooling power at $\Delta T = 40^{\circ}\text{C}$.
- Different power consumption is available under various voltages. This table only takes AC220V-50Hz and AC380V-50Hz as examples.
- Axial flow fan type: the standard type is wind suction type, Ip44, Ip54, F-class insulation, complying with CE standard.
- Medium: mineral oil, complying with DIN 51524. For other media please contact us.
- Noise value given in the table is measured at 1m, which is for reference only because it may be influenced by ambient environment, viscosity and reflection and other factors.

Symbol

Single-fan Cooler



Double-fan Cooler



AW Series

Air oil cooler

Flow: 20 l/min

Working pressure: 16 bar



Introduction

Used in: Machines tools, Special-purpose machinery and hydraulic power station.

Applicable for: The cooling of the oil discharge pipe of variable pump, and small-type hydraulic system

Product Characteristics:

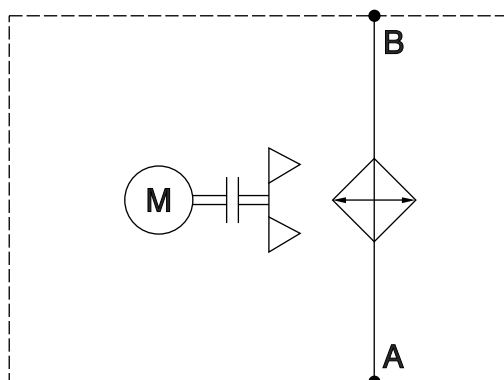
- The product is designed to achieve the best cooling effect with 16bar dynamic rated pressure, high-performance electronic axial flow fan and tightly structured high-efficiency fan.
- Single-fan cooling or double-fan cooling is available according to the heat generation of the system.
- Standard for oil inlet and outlet: BSP screw thread, other threads can be custom-made.

Operating voltage: AC 110V, AC 220V, AC 380V, DC 12V and DC 24V.

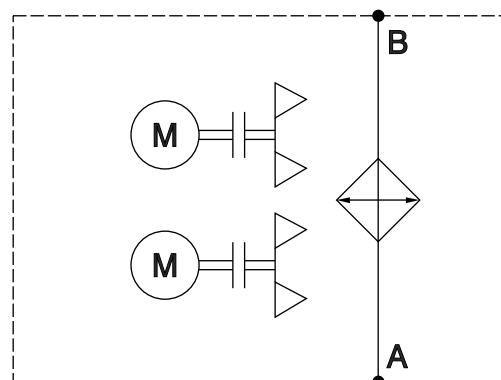
In case that special voltage is required, please contact THM.

Graphic Symbol

Single-fan Cooler



Double-fan Cooler



Technical data

Cooler type	Maximum flow [L/min]	Working pressure [bar]	Cooling capacity [kW]	Power consumption[W]		Fan rotating speed [rpm]	Noise [dB]	Maximum oil temperature [°C]	Maximum viscosity [mm²/s]	Weight [Kg]
				DC fan [DC24V]	AC fan [AC220V]					
AW0607	20	16	0.81	20	38	2700	50	130	2000	4
AW0608	20	16	1.16	20	38	2700	50	130	2000	5
AW0608L	20	16	1.74	20*2	38*2	2700	53	130	2000	7

- Cooling capacity: cooling power at $\Delta T = 40^{\circ}\text{C}$
- Different power consumption is available under various voltages. This table only takes DC24V and AC 220V as examples.
- Axial flow fan type: the standard type is wind suction type, IP44, F-class insulation, complying with CE standard.
- Medium: mineral oil, complying with DIN 51524. For other media, please contact THM.
- Noise value given in the table is measured at 1m, which is for reference only because it may be influenced by ambient environment, viscosity and reflection and other factors.

Ordering code

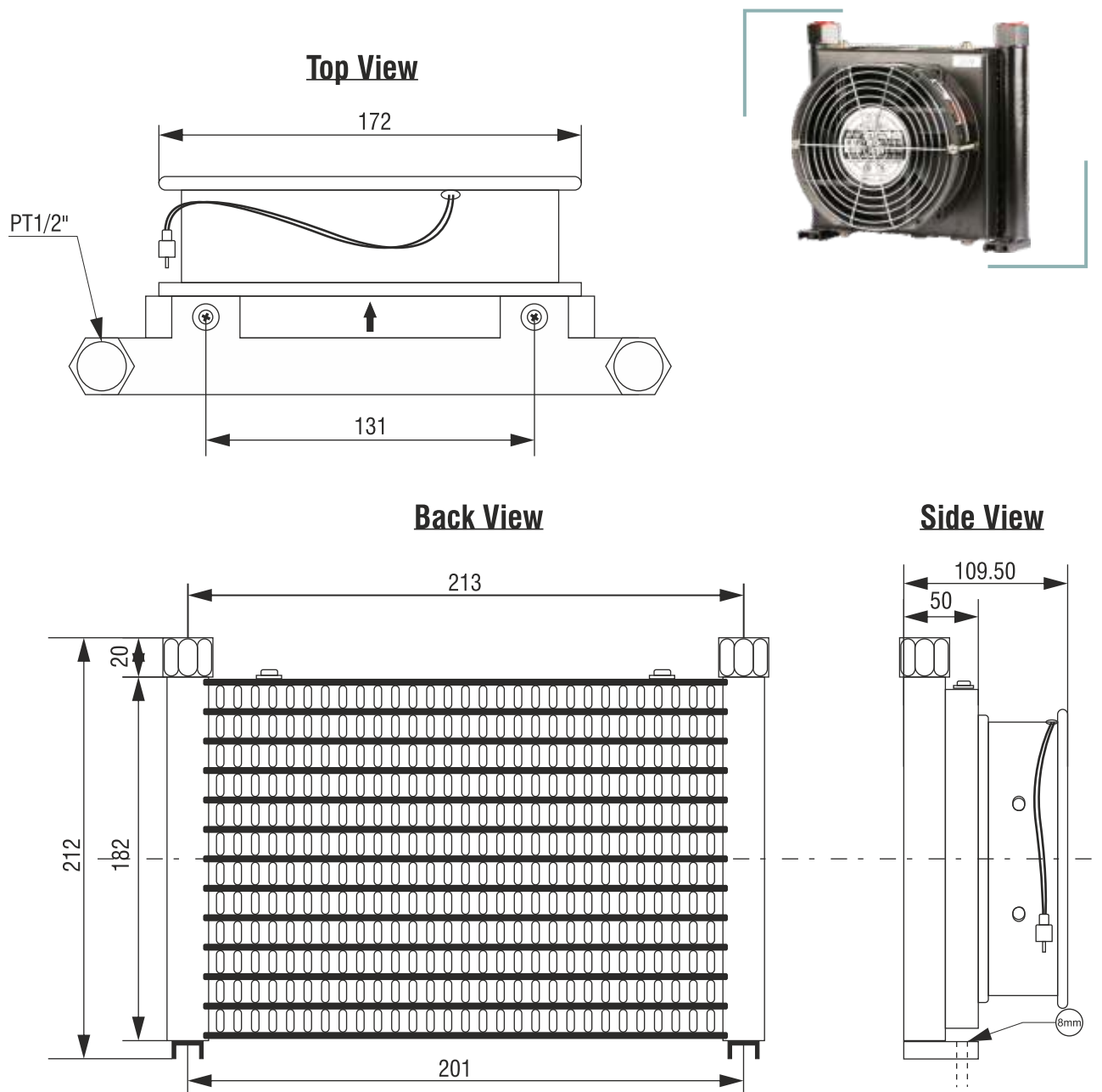
	AW	0607	**	-	FM	A2	-	**	-	10
AW Series Air Oil Cooler	= AW									
Sizes:										
0607, 0608, 0608L	= 0607									
Fan Quantity:										
Single Fan (Standard type)	= No code									
Double Fan	= L									
Drive type:										
Axial flow fan drive	= FM									
Voltage:										
DC 12V	= D1									
DC 24V	= D2									
AC 110V	= A1									
AC 220V/230V	= A2									
AC 380V/415V	= A3									
Frequency:										
50Hz	= No code									
60Hz	= 60									
Wind direction:										
Wind suction type(standard type, default)	= 10									
Wind Blowing type	= 20									

AJ0510

Air oil cooler

Flow: 10 l/min

Working pressure: 15 bar



Technical data

Model	AJ0510T-CA
Rate of flow	10L/min
Working pressure	≤15Bar
Fan power	48W
Cooling capacity	($\Delta T : 40^{\circ}\text{C}$) 720Kcal/hr
Weight	2Kg
Fan Voltage	AC220V~240V



THM
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