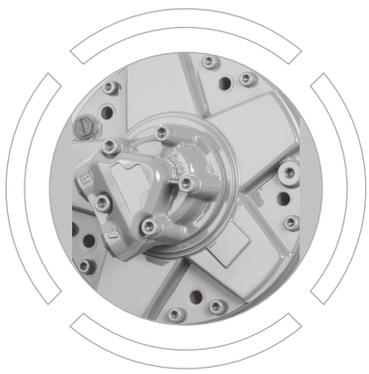
TH-SM Series

Hydraulic Motor
Displacement : 59~3041 ml/r
Peak Pressure up to 400 Bar

Features:

- Strong anti-shock capability and stability
- High reliability; easy maintenance
- Higher mechanical and volumetric efficiency



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Product Overview

TH-SM series hydraulic motor is a new type of product of our company, which is based on years practical experience. The design is improved in the foundation on the original technologies. TH-SM hydraulic motor mainly has the following characteristics:

1. As the piston and the tilt cylinder have no side force, the piston bottom is designed to be static pressure balance. The torsional force is transferring between the piston and the crankshaft through rolling bearing, so the friction loss during the transferring process of force is reduced. Therefore, TH-SM series hydraulic motor has such features as: very high mechanical efficiency and comparatively high startup torque (mechanical efficiency of over 0.92 during startup).
2. The plane distributor (patented technology)is simple and reliable with perfect seal performance and almost no leakage. The plastic piston ring is used to seal between the piston and the tilt cylinder, so it has very high volumetric efficiency (can be as high as 0.98).
3. As the structure of this product has reduced friction loss and enhanced the seal performance, the product has perfect stability at low speed. It can stably run at 10r/min working condition and has big speed regulation range.
4. As the piston is jointed closely with bearing bushing without any clearance, this series of hydraulic motor can run at pump working condition.
5. This series of hydraulic motor has high pressure, (the highest pressure can reach 31.5 Mpa) light weight, small bulk and high specific power.
6. As this series hydraulic motor has simple structure, reasonable design and adopts bearing with big load ability, it can work reliably and has long life and low noise; the transmission shaft allows endure radial load and the rotational direction is reversible.

Products application range

As TH-SM series hydraulic motor has the above characteristics, it has wide application range. It can be applied in the hydraulic transmission systems of various types of machinery in plastic injection machine, light industry machine, engineering machine, metallurgical equipment, petroleum, coal mine, geological prospecting, railway, ship, environment protection, machine tool and agricultural machine industries.

Ordering Code

TH-SM				

Motor Model = TH-SM

Series (the same series have the same figuration and volume)

Theoretical displacement (mL/r)

Form of output shaft(please mark out the form in the order)

Rectangular spline shaft	= No code
Involute spline shaft	= A
Flat key shaft	= B
Internal spline shaft	= I

Oil distribution casing type: it will be configured with standard casing if no special requirement is marked in order during ordering. If you have special requirements, please mark your requirements in the order.

Example of model selection

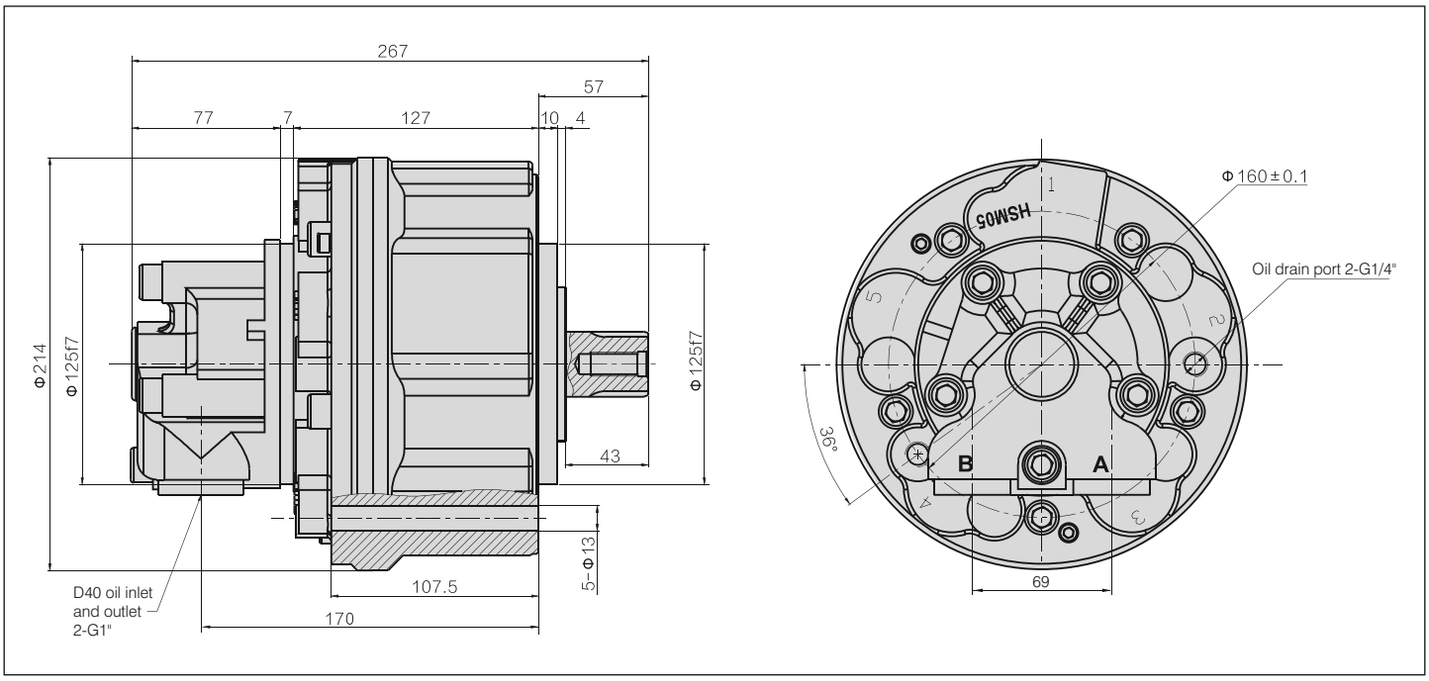
TH-SM2—420BD31 means the basic type is 2 series TH-SM hydraulic motor, and it's theoretical displacement is 425ml/r; output shaft 's type is flat key shaft, the distributor 's type is D31. When you place an order, please fill in the complete model according to this form. If you have special requirements please give a detailed description in the order contract.

Technical data

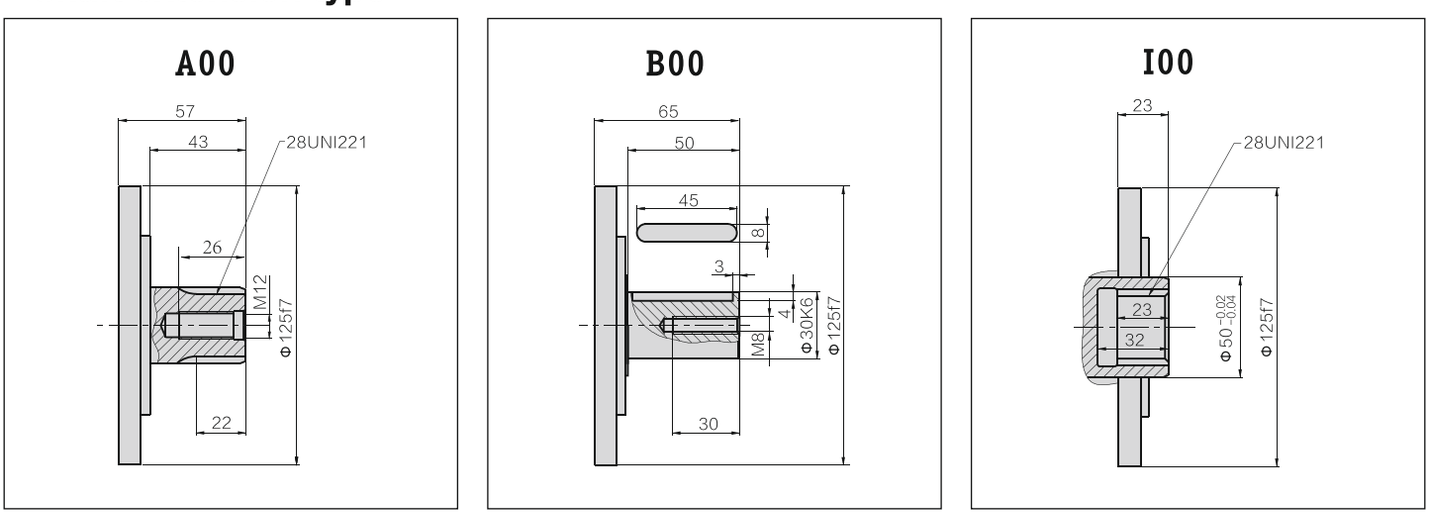
Model	Displacement (ml/r)	Torque (N.m)			Peak Pressure (Mpa)	Theoric Specific Torque (N.m/Mpa)	Speed range (r/min)	Max.cont Speed (r/min)
		16MPa	20MPa	25MPa				
TH-SM05-60	59	150	188	235	40	9.4	1-800	1100
TH-SM05-75	74	188	236	295	40	11.8	1-800	1100
TH-SM05-90	86	219	274	343	40	13.7	1-800	1100
TH-SM05-110	115	292	366	458	40	18.3	1-750	1000
TH-SM05-130	129	328	410	513	40	20.5	1-750	1000
TH-SM05-150	151	384	480	600	40	24	1-750	1000
TH-SM05-170	166	422	528	660	40	26.4	1-700	900
TH-SM05-200	191	486	608	760	40	30.4	1-700	900
TH-SM1-100	99	246	308	385	40	15.4	1-650	1100
TH-SM1-150	154	384	480	600	40	24	1-650	1100
TH-SM1-175	172	428	536	670	40	26.8	1-650	1000
TH-SM1-200	201	502	628	785	40	31.4	1-650	900
TH-SM1-250	243	608	760	950	40	38	1-550	800
TH-SM1-300	290	723	904	1130	40	45.2	1-450	750
TH-SM1-320	314	784	980	1225	40	49	1-450	750
TH-SM1-350	340	864	1080	1350	40	54	1-450	700
TH-SM2-200	192	480	600	750	40	30	1-650	900
TH-SM2-250	251	627	784	980	40	39.2	1-650	900
TH-SM2-300	304	760	950	1188	40	47.5	1-600	850
TH-SM2-350	347	867	1084	1355	40	54.2	1-600	850
TH-SM2-420	425	1060	1326	1658	40	66.3	1-550	850
TH-SM2-500	493	1230	1538	1923	40	76.9	1-550	800
TH-SM2-600	565	1412	1766	2208	40	88.3	1-550	800
TH-SM2-630	623	1556	1946	2433	40	97.3	1-500	750
TH-SM3-425	426	1062	1328	1660	40	66.4	1-600	750
TH-SM3-500	486	1212	1516	1895	40	75.8	1-550	700
TH-SM3-600	595	1484	1856	2320	40	92.8	1-550	675
TH-SM3-700	690	1728	2160	2700	40	108	1-500	600
TH-SM3-800	792	1984	2480	3100	40	124	1-500	600
TH-SM3-900	873	2176	2720	3400	40	136	1-450	500
TH-SM3-1000	987	2464	3080	3850	40	154	1-400	450
TH-SM4-600	616	1537	1922	2403	40	96.1	1-500	650
TH-SM4-800	793	1984	2480	3100	40	124	1-450	650
TH-SM4-900	904	2256	2820	3525	40	141	1-425	550
TH-SM4-1000	1022	2560	3200	4000	40	160	1-400	500
TH-SM4-1100	1116	2784	3480	4350	40	174	1-375	500
TH-SM4-1300	1316	3280	4100	5125	40	205	1-325	450
TH-SM5-800	807	2016	2520	3150	40	126	1-425	550
TH-SM5-1000	1039	2592	3240	4050	40	162	1-400	550
TH-SM5-1200	1185	2960	3700	4625	40	185	1-400	500
TH-SM5-1300	1340	3344	4180	5225	40	209	1-400	500
TH-SM5-1450	1462	3648	4560	5700	40	228	1-375	450
TH-SM5-1600	1634	4064	5080	6350	40	254	1-350	400
TH-SM5-1800	1816	4528	5660	7075	40	283	1-350	400
TH-SM5-2000	2007	5008	6260	7825	40	313	1-300	350
TH-SM6-1700	1690	4224	5280	6600	40	264	1-350	500
TH-SM6-2100	2127	5312	6640	8300	40	332	1-325	450
TH-SM6-2500	2513	6272	7840	9800	40	392	1-300	400
TH-SM6-3000	3041	7600	9500	11875	40	475	1-275	350

TH-SM05 Series

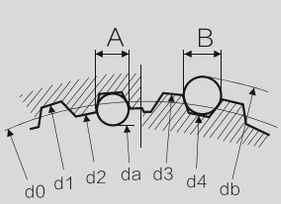
Contour dimension

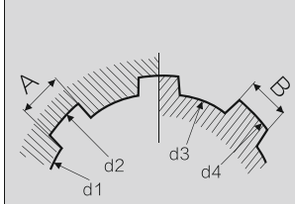


Shaft extension type

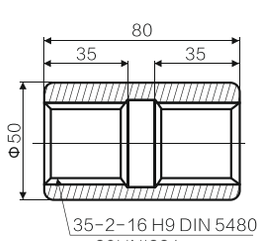


Spline parameters

A01/I01 35-2-16 DIN5480			
	**d0**	Φ32.0	
	d1	Φ35.0 $^{+0.520}_{+0}$	H14
	d2	Φ31.0 $^{+0.160}_{+0}$	H11
	A	Φ3.5	
	da	Φ27.711	H11
	d3	Φ34.6 $^{-0}_{-0.160}$	h11
	d4	Φ30.6 $^{-0}_{-0.520}$	h14
	B	Φ4.0	
	db	Φ39.000	f8

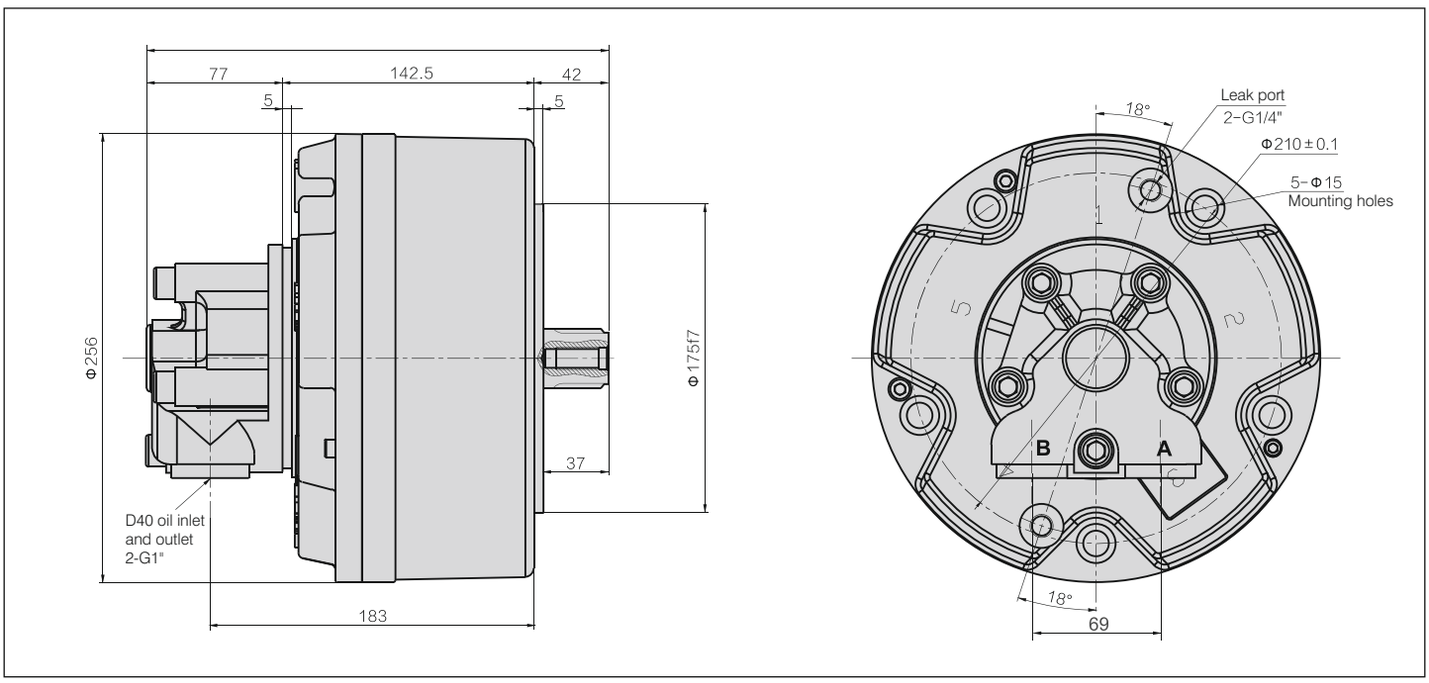
A00/I00 28 UNI 221(6-28-34)DIN5463			
	**d1**	Φ28.0 $^{+0.021}_{+0}$	H7
	d2	Φ34.1 $^{+0.016}_{+0}$	H11
	A	7.0 $^{+0.028}_{+0.013}$	F7
	d3	Φ28.0 $^{-0.007}_{-0.020}$	g6
	d4	Φ34.0 $^{-0.065}_{-0.160}$	h14
	B	7.0 $^{-0.013}_{-0.026}$	f7

Couplings

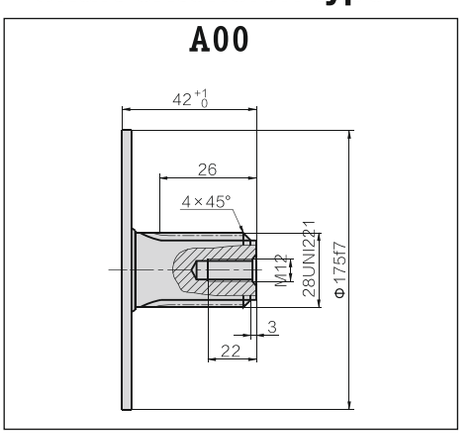


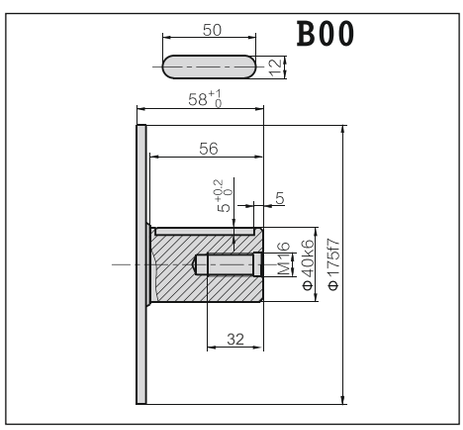
TH-SM1 Series

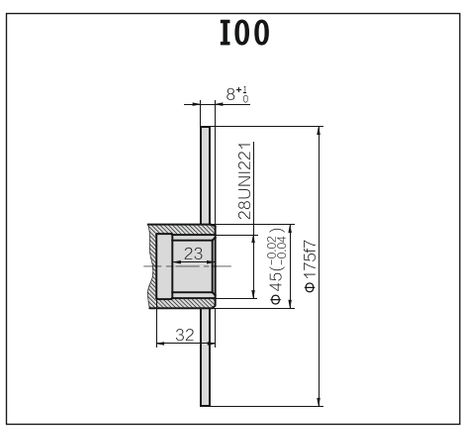
Contour dimension



Shaft extension type

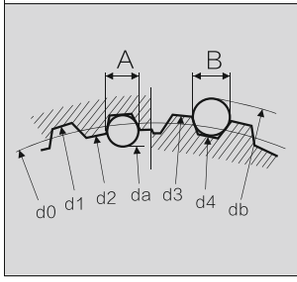






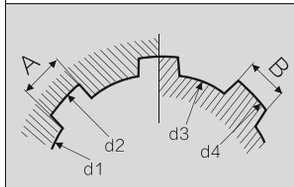
Spline parameters

A01/I01 35-2-16 DIN5480



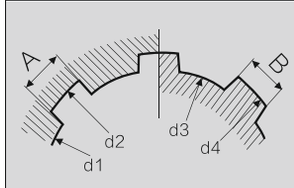
d0	Φ32.0	
d1	Φ35.0 $^{+0.520}_{+0}$	H14
d2	Φ31.0 $^{+0.160}_{+0}$	H11
A	Φ3.5	
da	Φ27.711	H11
d3	Φ34.6 $^{-0}_{-0.160}$	h11
d4	Φ30.6 $^{-0}_{-0.520}$	h14
B	Φ4.0	
db	Φ39.000	f8

A00/I00 28 UNI 221(6-28-34)DIN5463



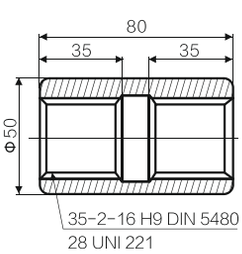
d1	Φ28.0 $^{+0.021}_{+0}$	H7
d2	Φ34.1 $^{+0.016}_{+0}$	H11
A	7.0 $^{+0.028}_{+0.013}$	F7
d3	Φ28.0 $^{-0.007}_{-0.020}$	g6
d4	Φ34.0 $^{-0.065}_{-0.160}$	h14
B	7.0 $^{-0.013}_{-0.028}$	f7

A02/I02 36 UNI 220 (8-36-40) DIN5462



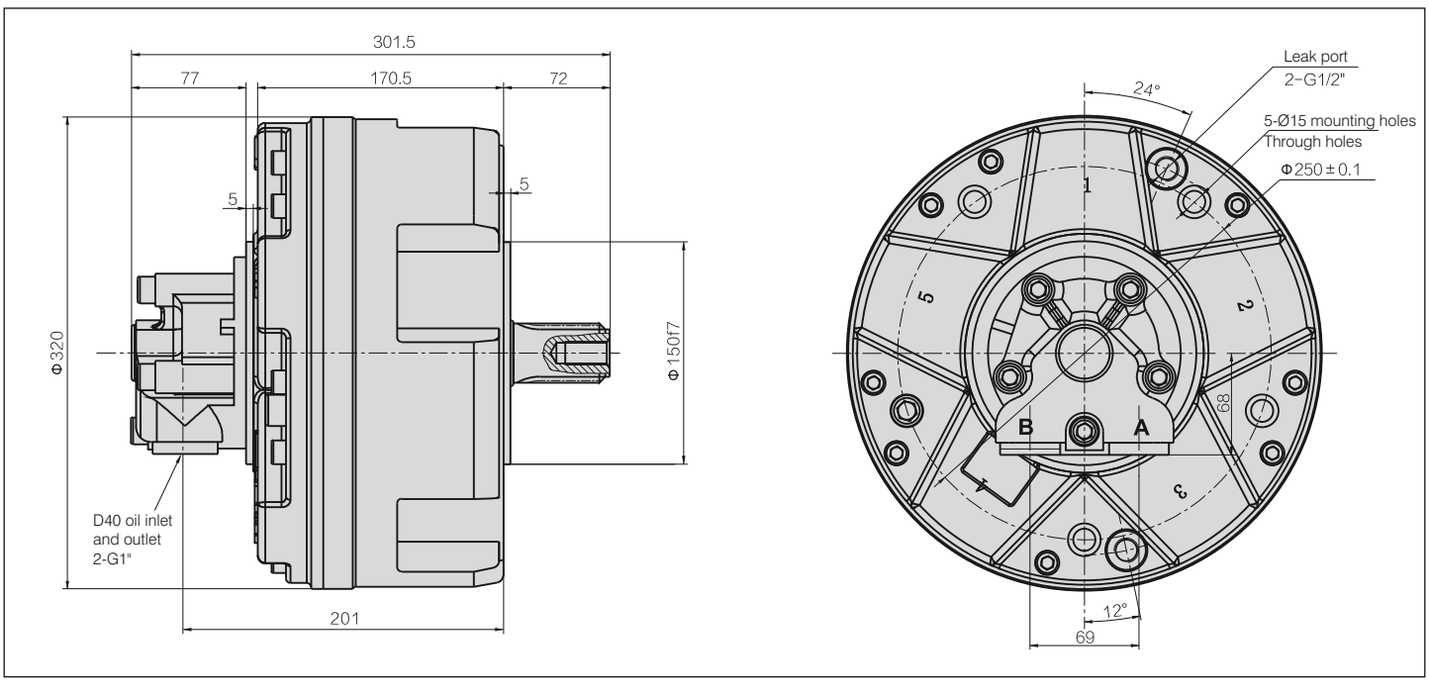
d1	Φ36.0 $^{+0.025}_{+0}$	H7
d2	Φ40.0 $^{+0.016}_{+0}$	H11
A	7.0 $^{+0.028}_{+0.013}$	F7
d3	Φ36.0 $^{-0.009}_{-0.025}$	g6
d4	Φ40.0 $^{-0.065}_{-0.160}$	d11
B	7.0 $^{-0.013}_{-0.028}$	f7

Couplings

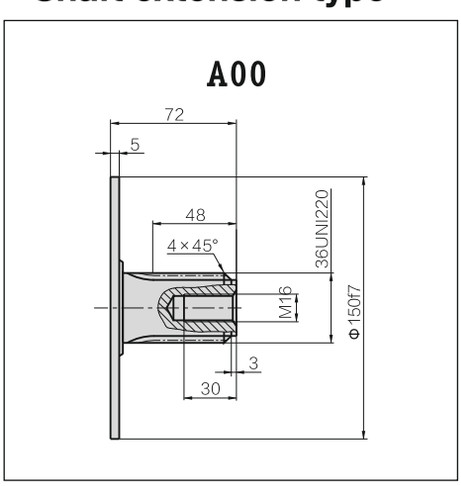


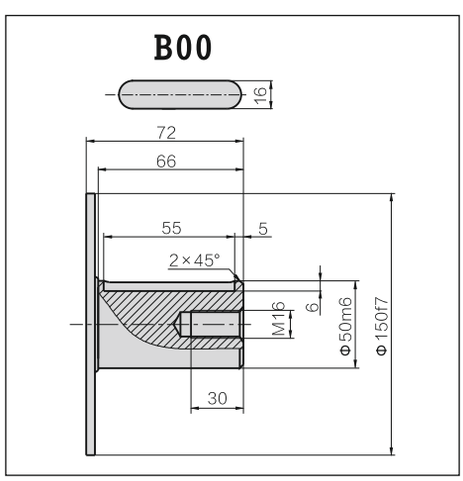
TH-SM2 Series

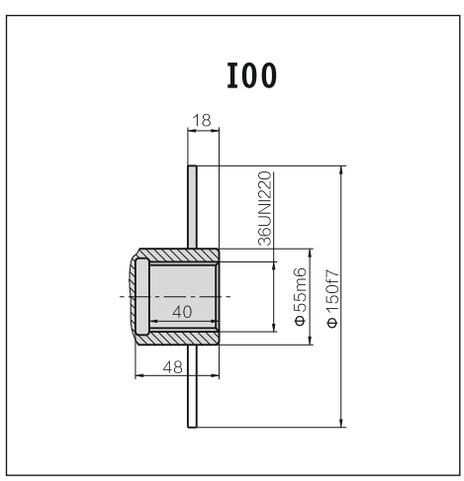
Contour dimension



Shaft extension type

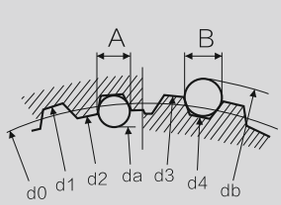






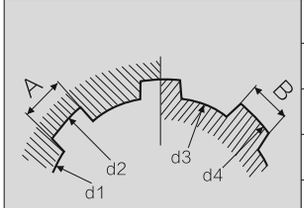
Spline parameters

A01/I01 40-3-12 DIN5480



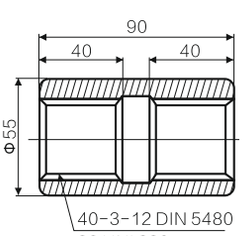
d0	Φ36.0	
d1	Φ40.0 $^{+0.620}_{+0}$	H14
d2	Φ34.0 $^{+0.160}_{+0}$	H11
A	Φ5.25	
da	Φ28.964	H11
d3	Φ39.4 $^{-0}_{-0.160}$	h11
d4	Φ33.4 $^{-0}_{-0.620}$	h14
B	Φ6.0	
db	Φ45.989	f8

A00/I00 36 UNI 220 (8-36-40) DIN5462



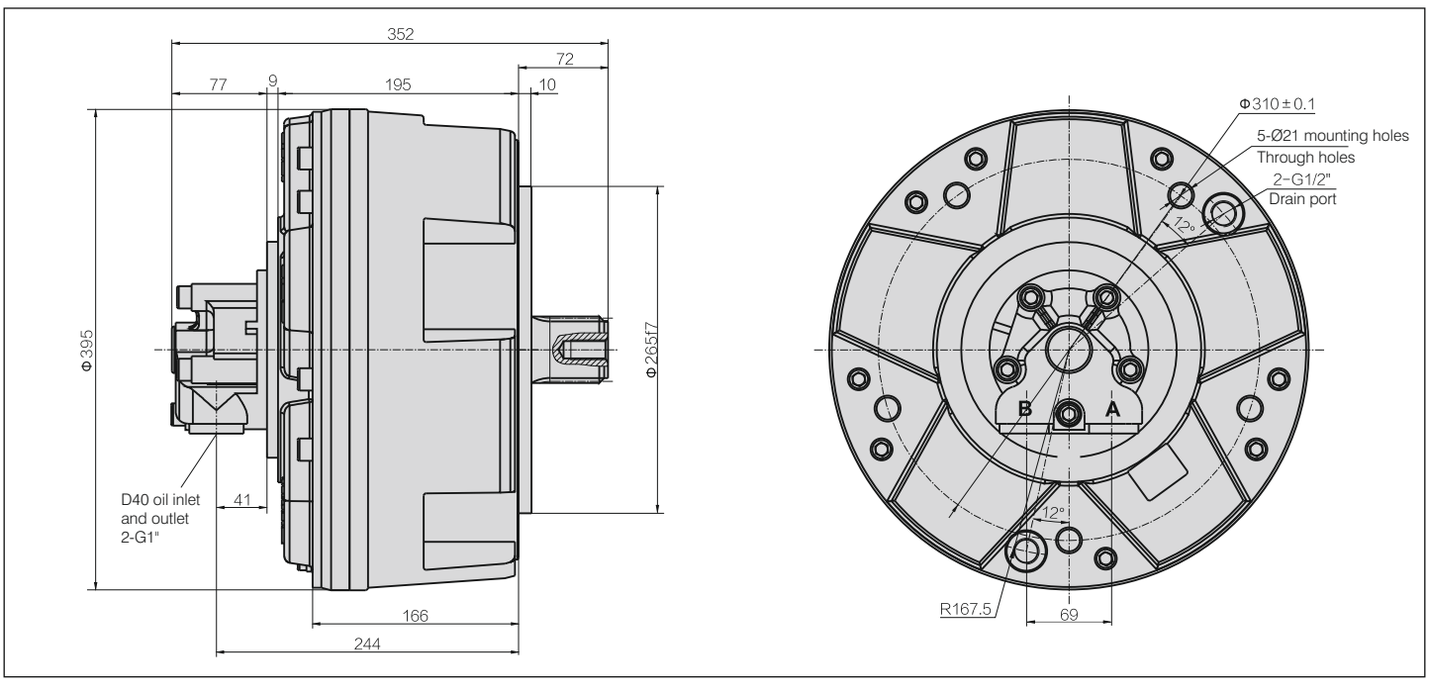
d1	Φ36.0 $^{+0.025}_{+0}$	H7
d2	Φ40.0 $^{+0.016}_{+0}$	H11
A	7.0 $^{+0.028}_{+0.013}$	F7
d3	Φ36.0 $^{-0.009}_{-0.025}$	g6
d4	Φ40.0 $^{-0.065}_{-0.160}$	d11
B	7.0 $^{-0.013}_{-0.028}$	f7

Couplings

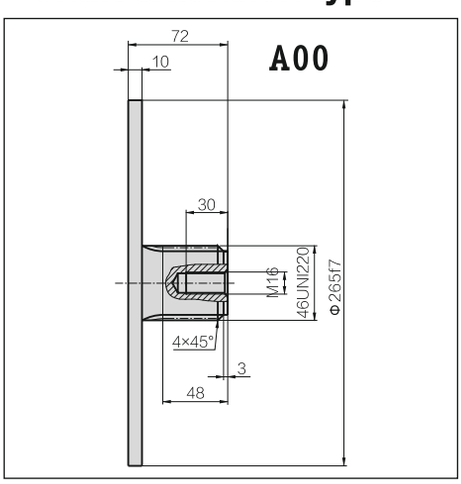


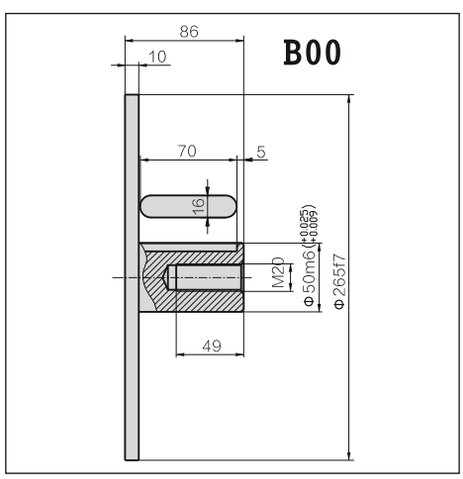
TH-SM3 Series

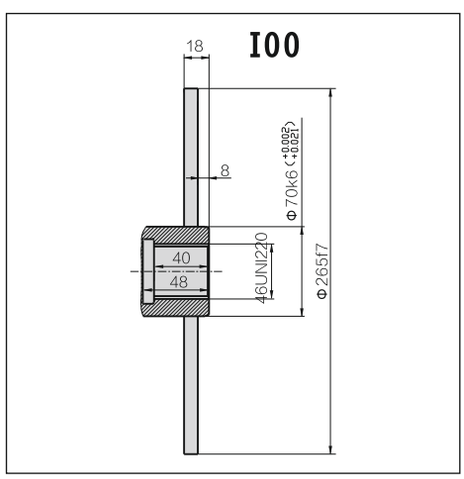
Contour dimension



Shaft extension type

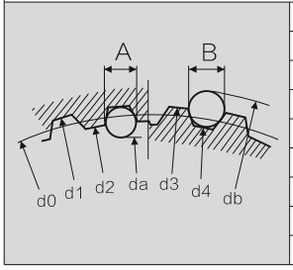






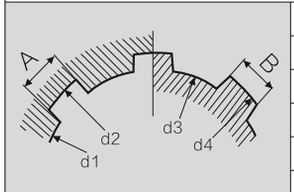
Spline parameters

A02/I02 40-3-12 DIN5480



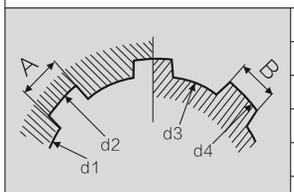
d0	Φ36.0	
d1	Φ40.0 $^{+0.620}_{+0}$	H14
d2	Φ34.0 $^{+0.160}_{+0}$	H11
A	Φ5.25	
da	Φ28.964	H11
d3	Φ39.4 $^{-0}_{-0.160}$	h11
d4	Φ33.4 $^{-0}_{-0.620}$	h14
B	Φ6.0	
db	Φ45.989	f8

A00/I00 46 UNI 220 (8-46-54)DIN5462



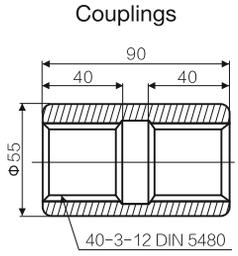
d1	Φ46.0 $^{+0.030}_{+0}$	H7
d2	Φ54.0 $^{+0.190}_{+0}$	H11
A	9.0 $^{+0.028}_{+0.013}$	F7
d3	Φ46.0 $^{-0.009}_{-0.025}$	g6
d4	Φ54.0 $^{-0.100}_{-0.290}$	d11
B	7.0 $^{-0.013}_{-0.028}$	f7

A01/I01 36 UNI 220 (8-36-40) DIN5462



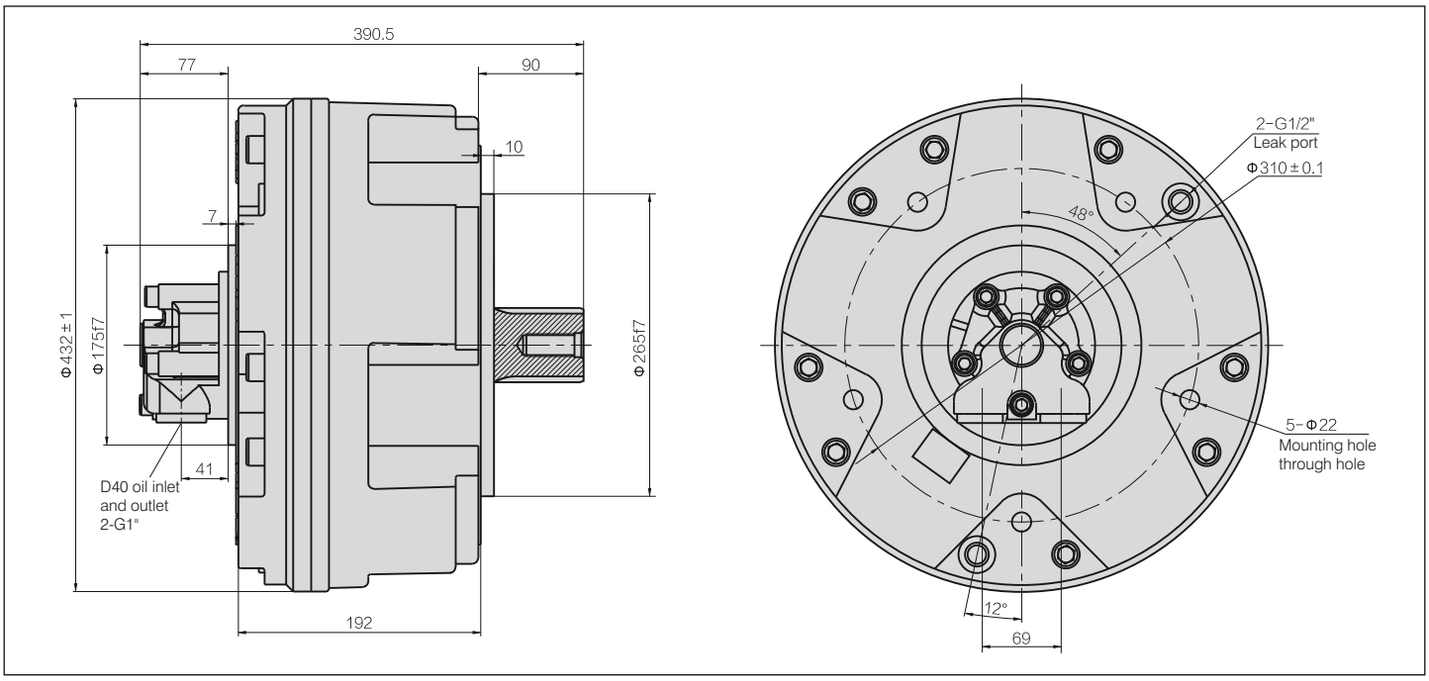
d1	Φ36.0 $^{+0.025}_{+0}$	H7
d2	Φ40.0 $^{+0.016}_{+0}$	H11
A	7.0 $^{+0.028}_{+0.013}$	F7
d3	Φ36.0 $^{-0.009}_{-0.025}$	g6
d4	Φ40.0 $^{-0.065}_{-0.160}$	d11
B	7.0 $^{-0.013}_{-0.028}$	f7

Couplings

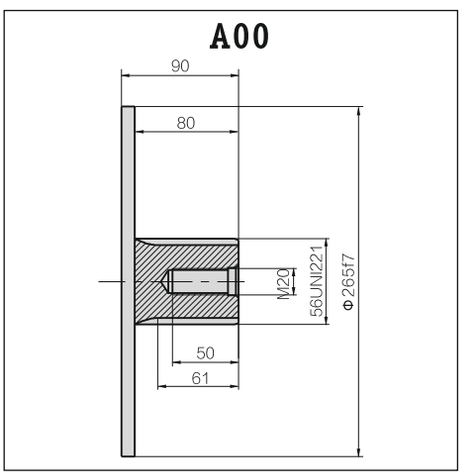


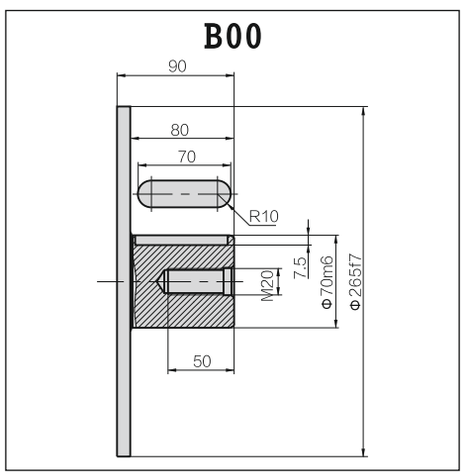
TH-SM4 Series

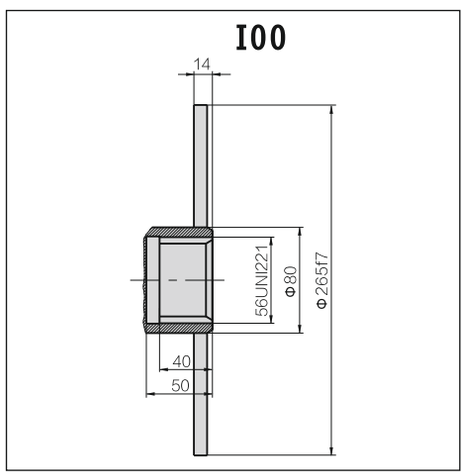
Contour dimension



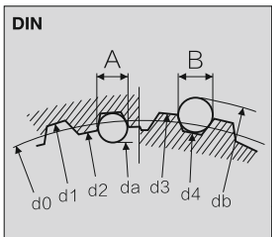
Shaft extension type

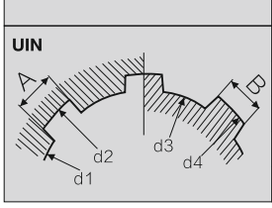






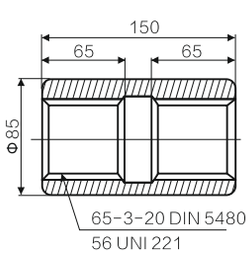
Spline parameters





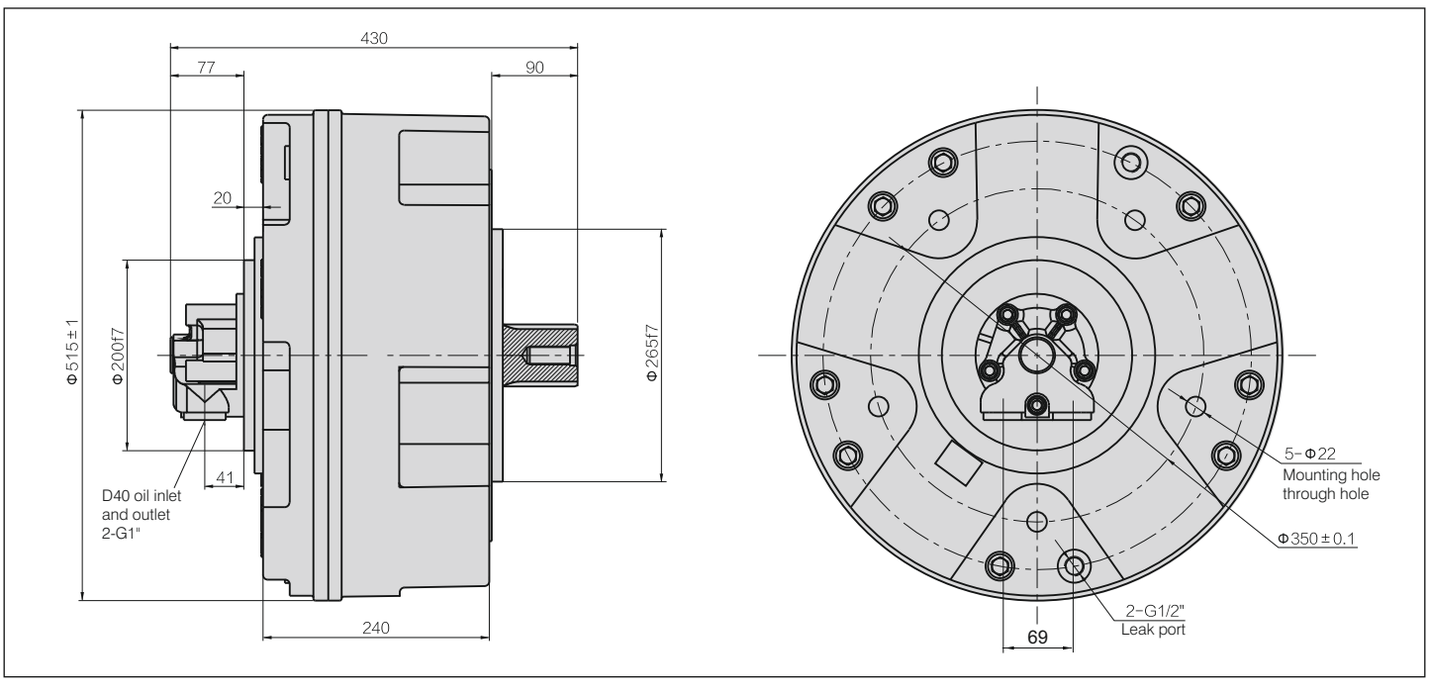
	A01/I01 65-3-20 DIN5480	A02/I02 55-3-26 DIN5428	A03/I03 55-3-17 DIN5428	A00/I00 56 UNI 221(8-56-65 DIN 5428)
d0	Φ60.0	Φ52.0	Φ51.0	**d1** Φ56.0 $^{+0.030}_{+0}$ H7
d1	Φ65.0 $^{+0.740}_{+0}$ H14	Φ55.0 $^{+0.300}_{+0}$ H12	Φ55.0 $^{+0.740}_{+0}$ H14	**d2** Φ65.0 $^{+0.190}_{+0}$ H11
d2	Φ59.0 $^{+0.190}_{+0}$ H11	Φ50.0 $^{+0.160}_{+0}$ H11	Φ49.0 $^{+0.160}_{+0}$ H11	**A** 10.0 $^{+0.028}_{+0.013}$ F7
A	Φ5.25	Φ3.5	Φ5.25	**d3** Φ56 $^{-0.010}_{-0.029}$ g6
da	Φ54.101 $^{+0.190}_{+0}$ H11	Φ46.902 $^{+0.100}_{+0}$ H10	Φ43.807 $^{+0.100}_{+0}$ H11	**d4** Φ65.0 $^{-0.100}_{-0.190}$ H11
d3	Φ64.4 $^{-0}_{-0.190}$ h11	Φ54.5 $^{-0}_{-0.190}$ h11	Φ54.4 $^{-0}_{-0.190}$ h11	**B** 10 $^{-0.028}_{-0.013}$ f7
d4	Φ58.4 $^{-0}_{-0.740}$ h14	Φ49.0 $^{-0}_{-0.300}$ h12	Φ48.4 $^{-0}_{-0.620}$ h14	
B	Φ6.0	Φ3.5	Φ6.0	
db	Φ70.999 $^{-0.030}_{-0.076}$ f8	Φ56.953 $^{-0.060}_{-0.106}$ e9	Φ60.873 $^{-0.030}_{-0.076}$ f8	

Couplings

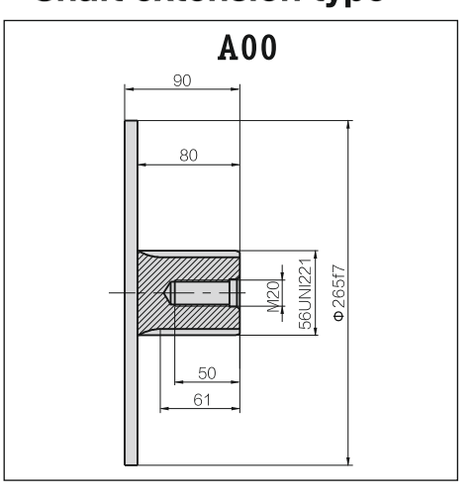


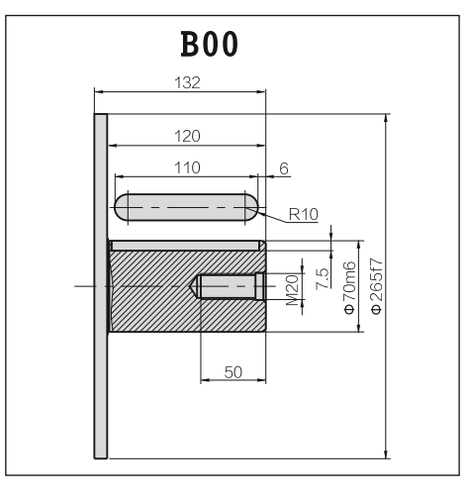
TH-SM5 Series

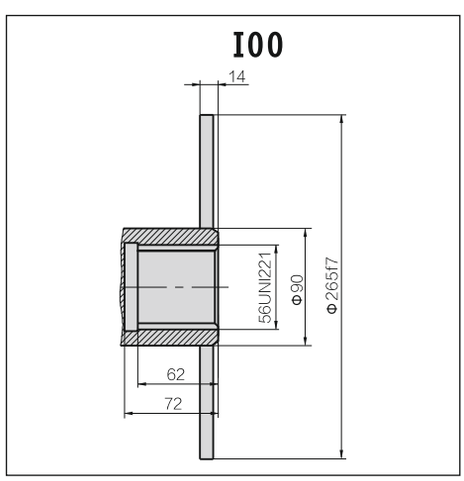
Contour dimension



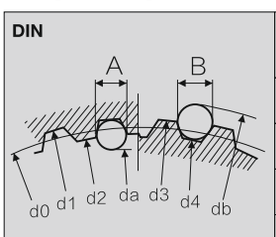
Shaft extension type

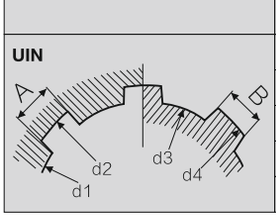






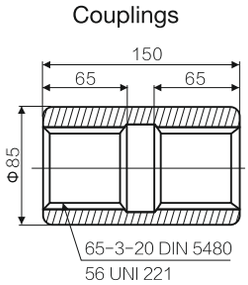
Spline parameters





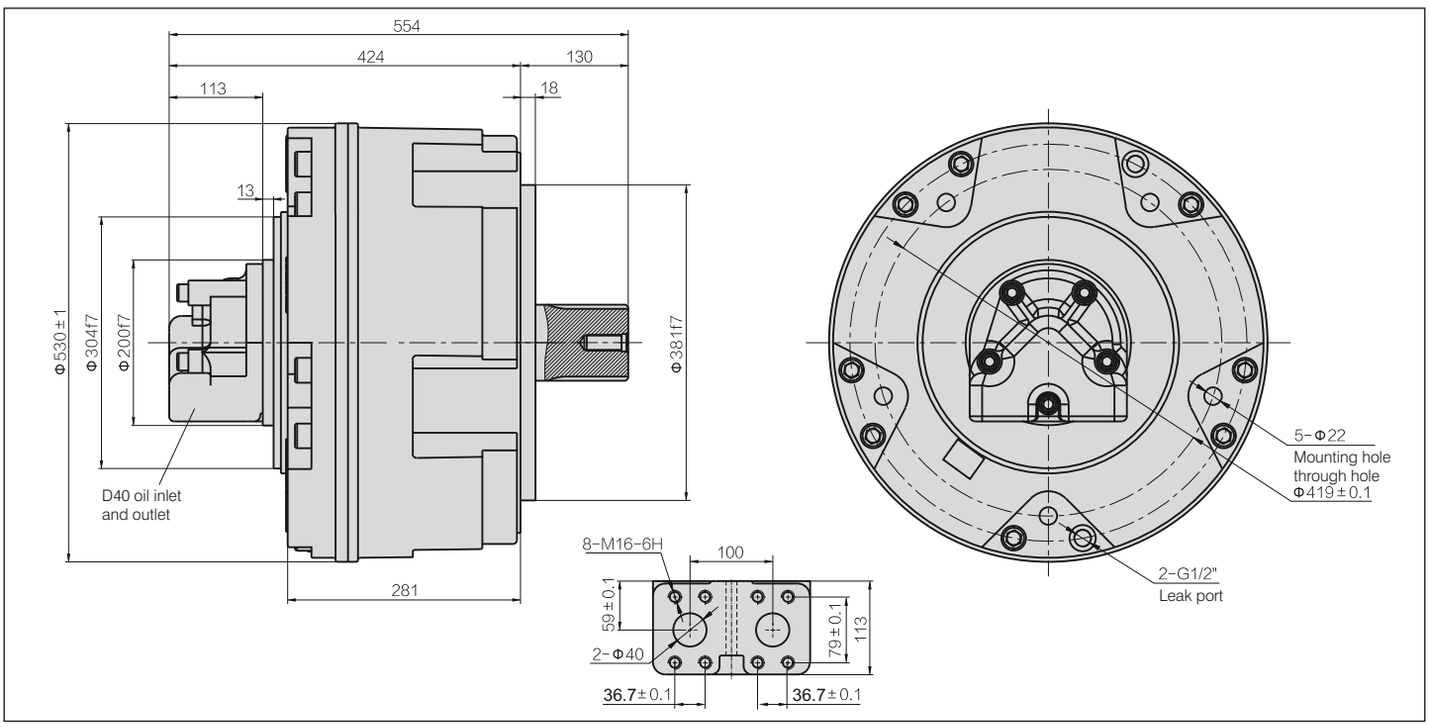
	A02/I02 65-3-20 DIN5480	A03/I03 55-3-17 DIN5428	A00/I00 56 UNI 221(8-56-65 DIN 5428)	A01/I01 8-72×62×12
d0	Φ60.0	Φ51.0	d1 Φ56.0 $^{+0.030}_{+0}$ H7	Φ62 $^{-0.19}_{-0.49}$ b12
d1	Φ65.0 $^{+0.740}_{+0}$ H14	Φ55.0 $^{+0.740}_{+0}$ H14	d2 Φ65.0 $^{+0.190}_{+0}$ H11	Φ72 $^{-0.2}_{-0.5}$ b12
d2	Φ59.0 $^{+0.190}_{+0}$ H11	Φ49.0 $^{+0.160}_{+0}$ H11	A 10.0 $^{+0.028}_{+0.013}$ F7	12 $^{-0.016}_{-0.043}$ f8
A	Φ5.25	Φ5.25	d3 Φ56 $^{-0.010}_{-0.029}$ g6	Φ62 $^{+0.19}_{0}$ H11
da	Φ54.101 $^{+0.190}_{+0}$ H11	Φ43.807 $^{+0.100}_{+0}$ H11	d4 Φ65.0 $^{-0.100}_{-0.190}$ H11	Φ72 $^{+0.19}_{0}$ H11
d3	Φ64.4 $^{-0}_{-0.190}$ h11	Φ54.4 $^{-0}_{-0.190}$ h11	B 10 $^{-0.013}_{-0.028}$ f7	12 $^{+0.093}_{+0.05}$ D9
d4	Φ58.4 $^{-0}_{-0.740}$ h14	Φ48.4 $^{-0}_{-0.620}$ h14		
B	Φ6.0	Φ6.0		
db	Φ70.999 $^{-0.030}_{-0.076}$ f8	Φ60.873 $^{-0.030}_{-0.076}$ f8		

Couplings

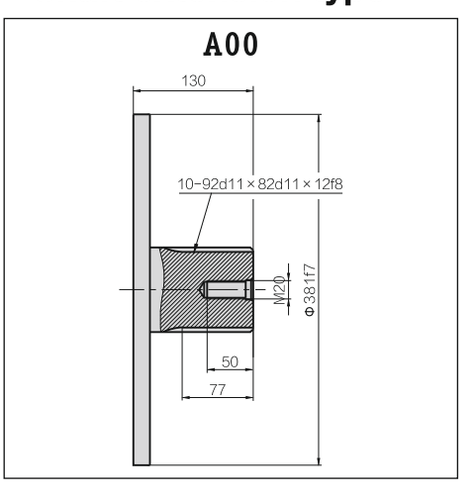


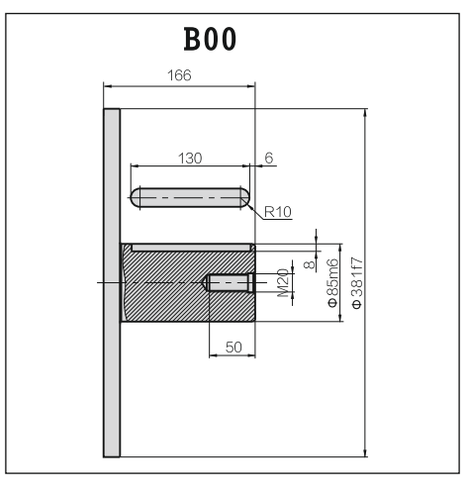
TH-SM6 Series

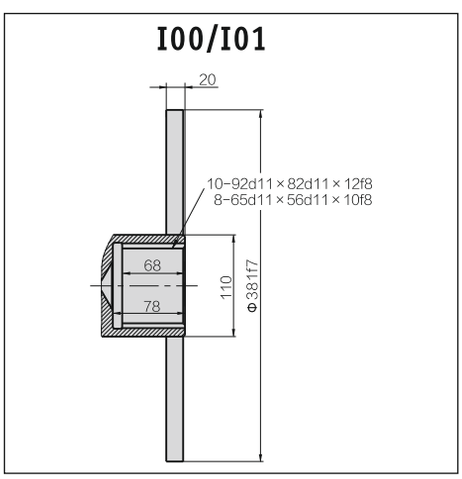
Contour dimension



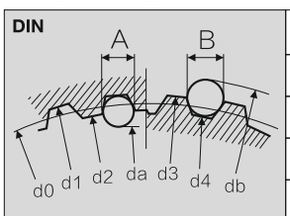
Shaft extension type

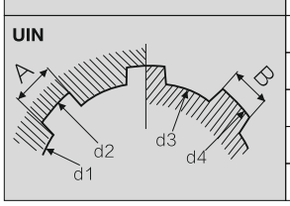






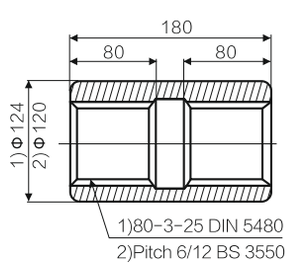
Spline parameters





	A02/I02 80-3-25 DIN5480		A00/I00 10-92×82×12
d0	Φ75.0	**d1**	Φ82 $^{-0.22}_{-0.57}$ b12
d1	Φ80.0 $^{+0.870}_{+0}$ H14	**d2**	Φ92 $^{-0.22}_{-0.57}$ b12
d2	Φ74.0 $^{+0.190}_{+0}$ H11	**A**	12 $^{-0.016}_{-0.043}$ f8
A	Φ5.25	**d3**	Φ82 $^{+0.22}_{0}$ H11
da	Φ68.9 $^{+0.074}_{+0}$ H9	**d4**	Φ92 $^{+0.22}_{0}$ H11
d3	Φ79.4 $^{-0}_{-0.190}$ h11	**B**	12 $^{+0.093}_{+0.05}$ D9
d4	Φ73.4 $^{-0}_{-0.870}$ h14		
B	Φ6.0		
db	Φ85.9 $^{-0.036}_{-0.090}$ f8		

Couplings



The specified data is for product description purposes only and may not be deemed to be guaranteed unless expressly confirmed in the contract.

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