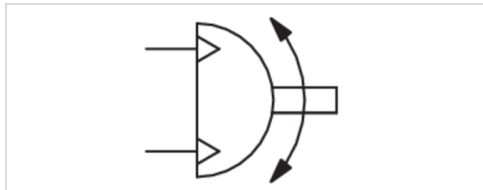


Rack-and-pinion gears, Series TRR

- angle of rotation max. 90 180 360 °
- Ø 32-100 mm
- with magnetic piston
- double piston with rack
- Cushioning pneumatically adjustable



Working pressure min./max.	2 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m ³
Cushioning	pneumatically adjustable
Theoretical torque at	6.3 bar
Weight	See table below



Technical data

Part No.	Frame size	Compressed air connection	angle of rotation	Rotation angle tolerance	Rotation angle setting
		G			
0822930204	TRR-32	G 1/8	0-90 °	0° / +3°	-
0822930205	TRR-32	G 1/8	0-180 °	0° / +3°	-
0822930206	TRR-32	G 1/8	0-360 °	0° / +3°	-
0822931204	TRR-40	G 1/4	0-90 °	0° / +3°	-
0822931205	TRR-40	G 1/4	0-180 °	0° / +3°	-
0822931206	TRR-40	G 1/4	0-360 °	0° / +3°	-
0822932204	TRR-50	G 1/4	0-90 °	0° / +6°	-
0822932205	TRR-50	G 1/4	0-180 °	0° / +6°	-
0822932206	TRR-50	G 1/4	0-360 °	0° / +6°	-
0822932227	TRR-50	G 1/4	0-90 °	-	-5° / +5°
0822932228	TRR-50	G 1/4	0-180 °	-	-5° / +5°
0822932229	TRR-50	G 1/4	0-360 °	-	-5° / +5°
0822933204	TRR-63	G 3/8	0-90 °	0° / +5°	-
0822933205	TRR-63	G 3/8	0-180 °	0° / +5°	-
0822933206	TRR-63	G 3/8	0-360 °	0° / +5°	-
0822933227	TRR-63	G 3/8	0-90 °	-	-5° / +5°
0822933228	TRR-63	G 3/8	0-180 °	-	-5° / +5°
0822933229	TRR-63	G 3/8	0-360 °	-	-5° / +5°
0822934204	TRR-80	G 3/8	0-90 °	0° / +4°	-
0822934205	TRR-80	G 3/8	0-180 °	0° / +4°	-

Part No.	Frame size	Compressed air connection	angle of rotation	Rotation angle tolerance	Rotation angle setting
		G			
0822934206	TRR-80	G 3/8	0-360 °	0° / +4°	-
0822934227	TRR-80	G 3/8	0-90 °	-	-7° / +7°
0822934228	TRR-80	G 3/8	0-180 °	-	-7° / +7°
0822934229	TRR-80	G 3/8	0-360 °	-	-7° / +7°
0822935204	TRR-100	G 1/2	0-90 °	0° / +3°	-
0822935205	TRR-100	G 1/2	0-180 °	0° / +3°	-
0822935206	TRR-100	G 1/2	0-360 °	0° / +3°	-
0822935227	TRR-100	G 1/2	0-90 °	-	-7° / +7°
0822935228	TRR-100	G 1/2	0-180 °	-	-7° / +7°
0822935229	TRR-100	G 1/2	0-360 °	-	-7° / +7°

Part No.	Tolerance in 0° position not under pressure	Direction of rotation	Max. play (radial)	Weight	
0822930204	-3,5 3,5 °	counterclockwise	2,1 °	1,9 kg	1)
0822930205	-3,5 3,5 °	counterclockwise	2,1 °	2,1 kg	1)
0822930206	-3,5 3,5 °	counterclockwise	2,1 °	2,5 kg	1)
0822931204	-3 3 °	counterclockwise	1,6 °	2,5 kg	1)
0822931205	-3 3 °	counterclockwise	1,6 °	2,75 kg	1)
0822931206	-3 3 °	counterclockwise	1,6 °	3,25 kg	1)
0822932204	-3 3 °	counterclockwise	1,3 °	3,95 kg	1)
0822932205	-3 3 °	counterclockwise	1,3 °	4,25 kg	1)
0822932206	-3 3 °	counterclockwise	1,3 °	4,85 kg	1)
0822932227	-3 3 °	counterclockwise	1,3 °	4,1 kg	2)
0822932228	-3 3 °	counterclockwise	1,3 °	4,4 kg	2)
0822932229	-3 3 °	counterclockwise	1,3 °	5 kg	2)
0822933204	-2 2 °	counterclockwise	1 °	5,9 kg	1)
0822933205	-2 2 °	counterclockwise	1 °	6,3 kg	1)
0822933206	-2 2 °	counterclockwise	1 °	7,1 kg	1)
0822933227	-2 2 °	counterclockwise	1 °	6,4 kg	2)
0822933228	-2 2 °	counterclockwise	1 °	6,8 kg	2)
0822933229	-2 2 °	counterclockwise	1 °	7,6 kg	2)
0822934204	-2 2 °	counterclockwise	0,9 °	11,6 kg	1)
0822934205	-2 2 °	counterclockwise	0,9 °	12,4 kg	1)
0822934206	-2 2 °	counterclockwise	0,9 °	14 kg	1)
0822934227	-2 2 °	counterclockwise	0,9 °	12 kg	2)
0822934228	-2 2 °	counterclockwise	0,9 °	12,8 kg	2)
0822934229	-2 2 °	counterclockwise	0,9 °	14,4 kg	2)
0822935204	-1,5 1,5 °	counterclockwise	0,75 °	15,5 kg	1)
0822935205	-1,5 1,5 °	counterclockwise	0,75 °	16,7 kg	1)
0822935206	-1,5 1,5 °	counterclockwise	0,75 °	19,1 kg	1)
0822935227	-1,5 1,5 °	counterclockwise	0,75 °	16,3 kg	2)
0822935228	-1,5 1,5 °	counterclockwise	0,75 °	17,5 kg	2)
0822935229	-1,5 1,5 °	counterclockwise	0,75 °	19,9 kg	2)

1) Non-adjustable angle of rotation

2) Adjustable angle of rotation

Technical data

Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Frame size	TRR-32	TRR-40	TRR-50	TRR-63	TRR-80	TRR-100
Stroke/10° angle of rotation	2 mm	2,2 mm	2,6 mm	3,5 mm	3,9 mm	5,2 mm
Theoretical torque	5 Nm	7 Nm	14 Nm	29 Nm	54 Nm	111 Nm
Cushioning angle	61 °	69 °	65 °	49 °	56 °	45 °

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

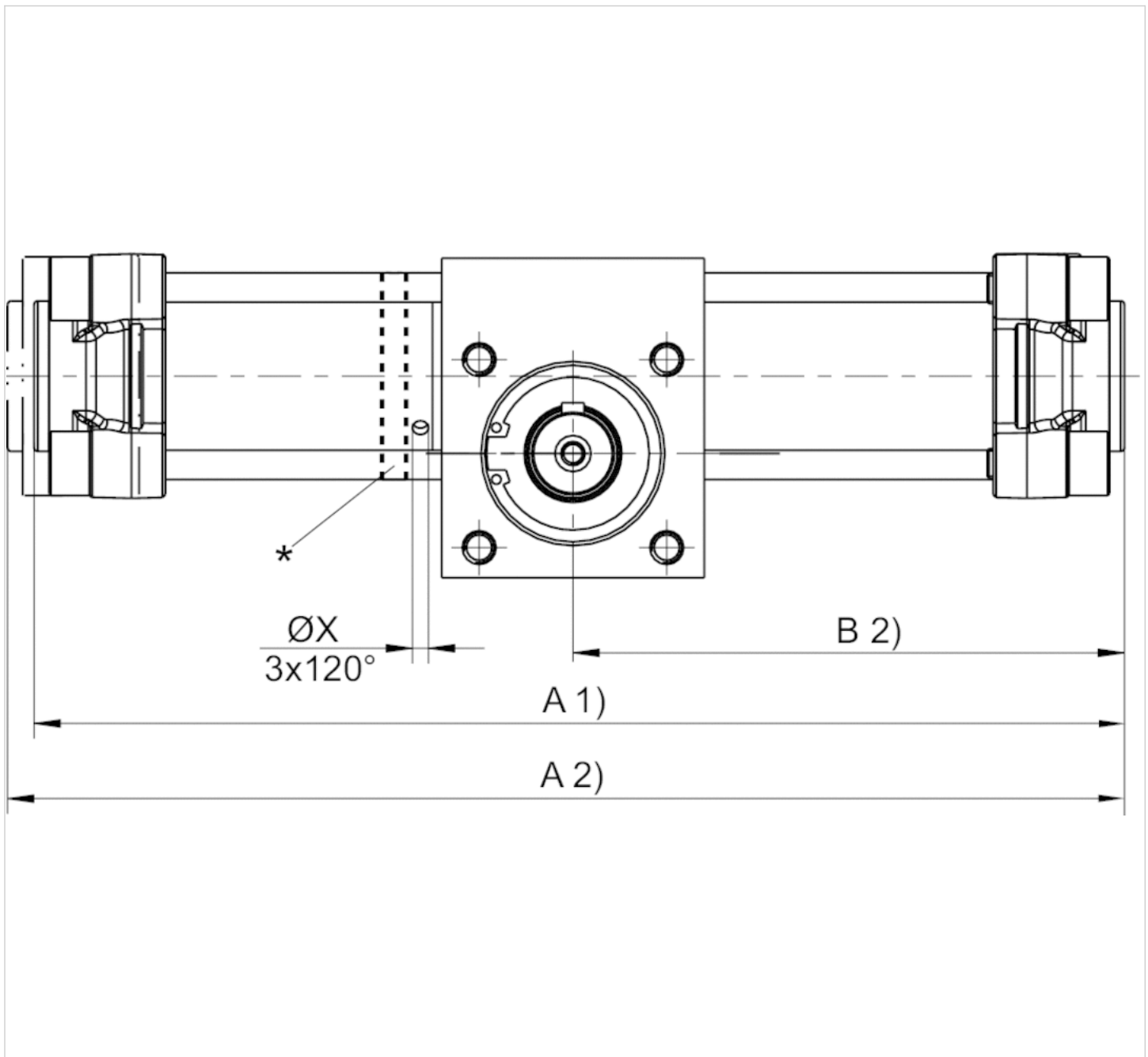
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Aluminum
Cap	Die-cast aluminum
Seal	Polyurethane
Axis	Steel

Dimensions

Rotation angle setting



* Rotation angle setting via rotation of the setting ring.

The nuts of the tie rod must be loosened and tightened with the torque M_a .

0-position: parallel key on top (piston stop on the right).

Tightening torque TRR-50, TRR-63: 9-10 Nm

Tightening torque TRR-80, TRR-100: 18-20 Nm

1) Min.

2) Max.

Non-adjustable angle of rotation

Frame size	Ø	A 2) 90°	A 2) 180°	A 2) 360°	B 2) 90°	B 2) 180°
TRR-32	32	251	285	357	126	143
TRR-40	40	265	304	383	133	152
TRR-50	50	295	342	436	148	171
TRR-63	63	338	401	527	169	200
TRR-80	80	390	460	602	195	230
TRR-100	100	440	536	724	220	268

B 2) 360°	ØX
179	—
192	—
218	—
264	—
301	—
362	—

2) Max.

Adjustable angle of rotation

Frame size	Ø	A 1) 90°	A 1) 180°	A 1) 360°	A 2) 90°	A 2) 180°
TRR-50	50	292	339	434	299	345
TRR-63	63	337	400	525	344	407
TRR-80	80	388	458	600	399	470
TRR-100	100	440	533	722	451	544

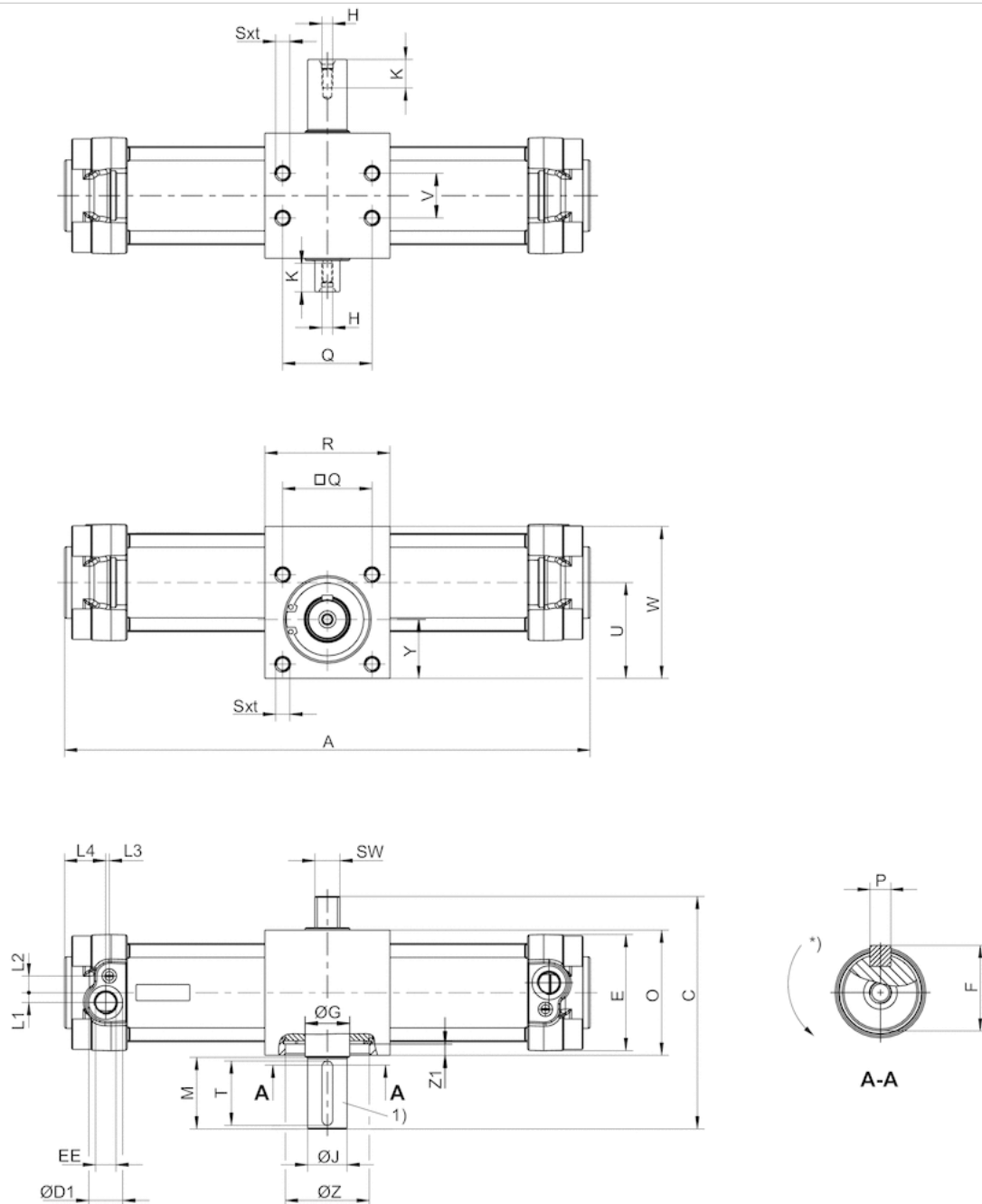
A 2) 360°	B 2) 90°	B 2) 180°	B 2) 360°	ØX
440	150	173	220	4.2
533	173	204	267	4.2
611	200	235	306	4.2
733	226	273	366	4.2

1) Min.

2) Max.

Dimensions

Dimensions



1) Parallel key and slot dimensions according to DIN 6885

* Direction of rotation

Dimensions

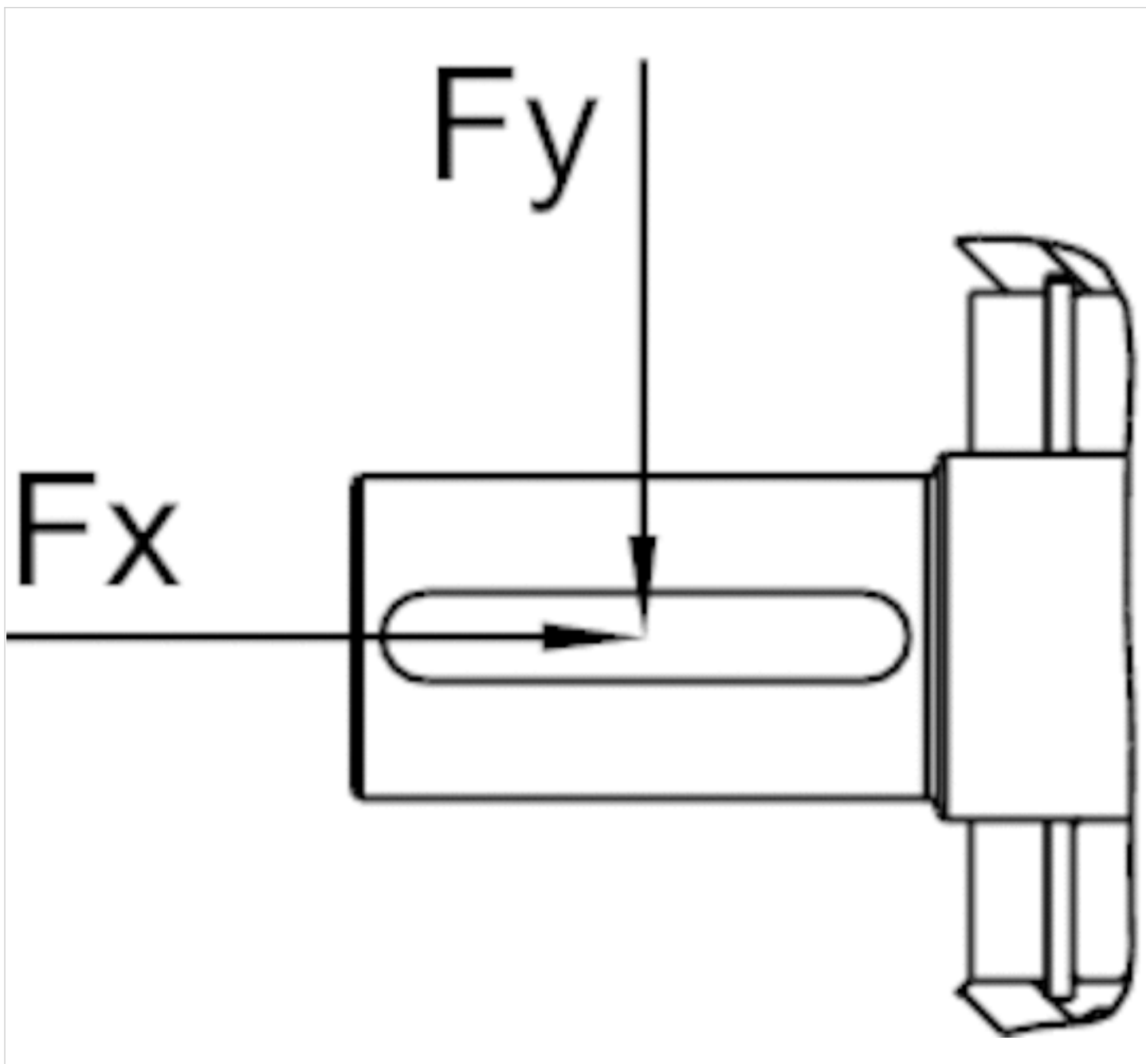
Frame size	Ø	C	ØD1	E	EE	F	ØG	H	ØJ k6	L1	L2	L3	L4	M	O	P	Q
TRR-32	32	103.5	15	47	G 1/8	16	17	M5x12,5	14	5	7.5	4.2	20	30	55	5x25	33
TRR-40	40	110	19	53	G 1/4	19	20	M5x12,5	17	5.5	9.5	5.2	24	30	60	5x25	40
TRR-50	50	130	19	65	G 1/4	24.5	25	M6x16	22	5.5	9.3	2	23	40	70	6x36	50
TRR-63	63	142.5	23	75	G 3/8	28	30	M8x19	25	9	11.7	2	28	40	80	8x36	60
TRR-80	80	175	23	95	G 3/8	33	35	M8x19	30	8	15	2.5	28	50	100	8x45	80

Frame size	Ø	C	ØD1	E	EE	F	ØG	H	ØJ k6	L1	L2	L3	L4	M	O	P	Q
TRR-100	100	190	27	115	G 1/2	38	40	M10x22	35	12	14	4	29	50	114	10x45	80

Frame size	R	Sxt	SW	U	V	W	Y	ØZ H7	Z1
TRR-32	63	M6x9	11	40.7	18	63	25	35	4
TRR-40	70	M6x9	13	43.5	22	70	26.5	42	4.25
TRR-50	70	M8x12	14	53.5	25	85	33	47	6.25
TRR-63	80	M8x12	17	65	35	105	40	55	7
TRR-80	106	M10x15	22	84.5	50	135	53	62	9.5
TRR-100	125	M10x15	22	91.5	60	150	53	80	16.5

Dimensions

Max. permissible axial F_x [N] and radial F_y [N] transverse force on the drive pin

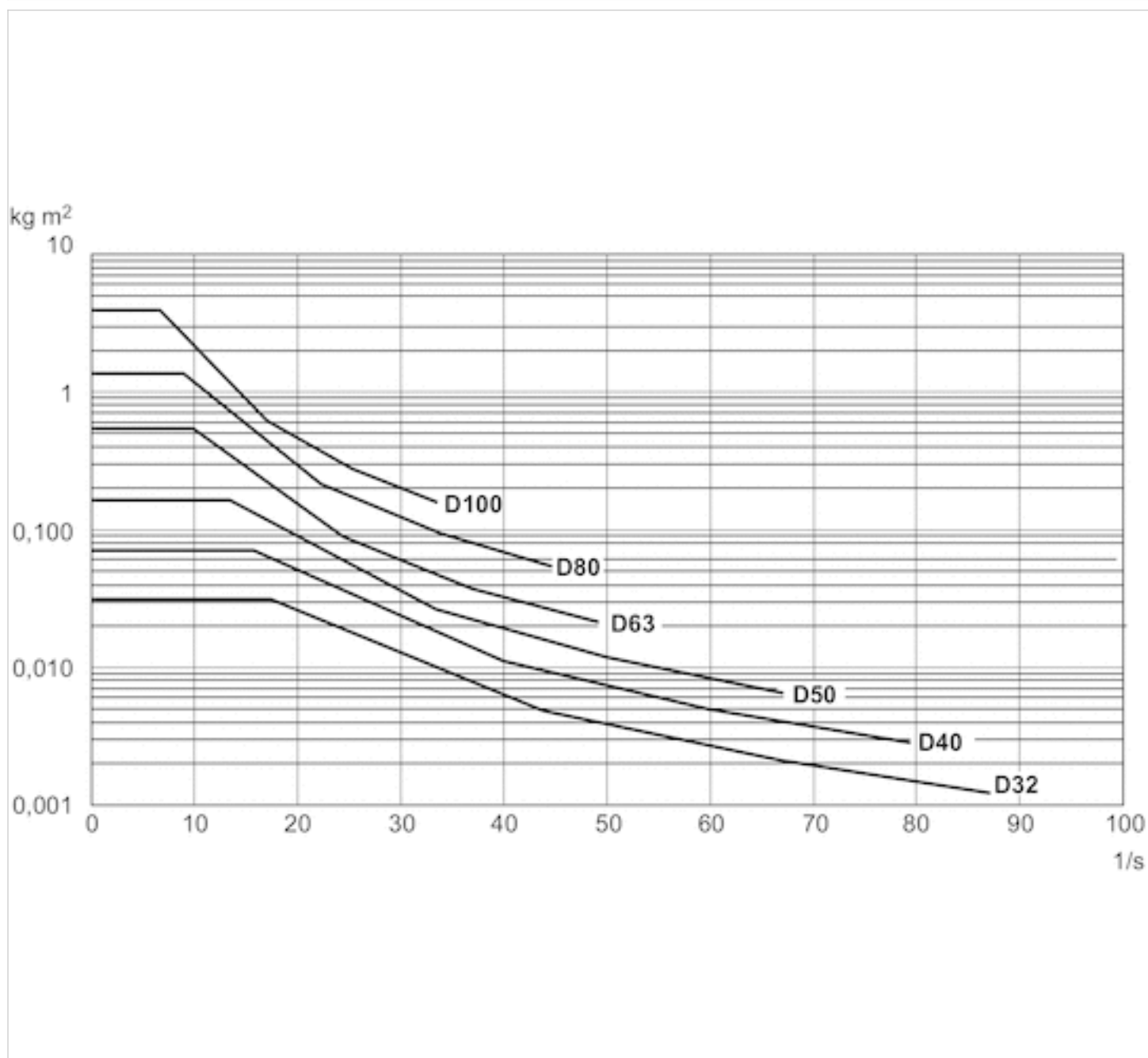


Dimensions

Frame size	Ø	F _x [N]	F _y [N]
TRR-32	32	400	630
TRR-40	40	600	1000
TRR-50	50	800	1150
TRR-63	63	1000	1500
TRR-80	80	1200	1800
TRR-100	100	2500	3500

Diagrams

Permissible mass moment of inertia (kg m²) depending on size and angular velocity (per second)



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