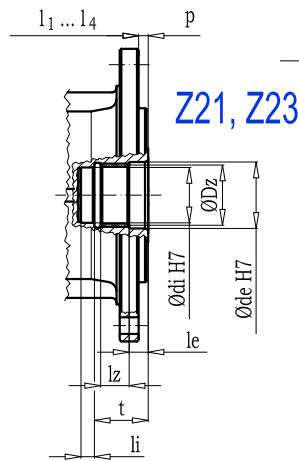
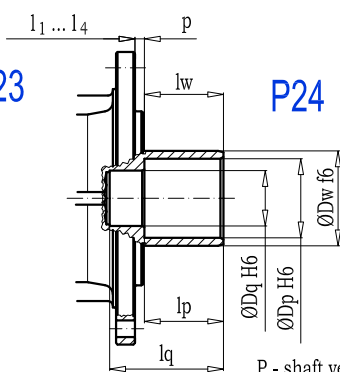


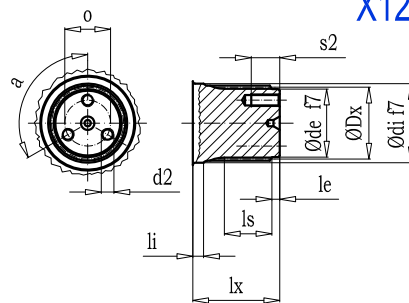
K10, K11, K13



Z21, Z23

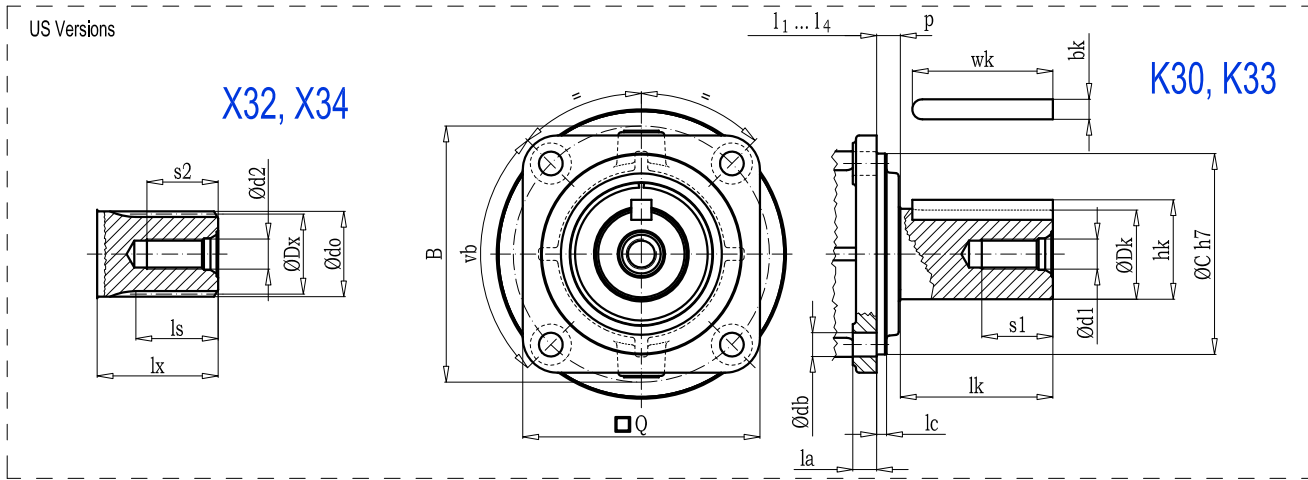


P24



X12, X14

P - shaft version for shrink disc:
For minimum length of torque reaction arm refer to the relevant data table, value "L_{min}"



X32, X34

K30, K33

Data and dimensions are not binding and may be modified without prior notice

Dimensions METRIC, solid shafts											Keyed						DIN Splined																
Model	A	la	B	db	vb	C	lc	D	p	l ₁	l ₂	l ₃	l ₄	Dk	lk	bk	hk	wk	d1	s1	code	Dx	lx	ls	de	le	di	li	d2	a	o	code	
15	185	12	165	10.5	8x45°	110	5	185	6	113	163	213	263	38	58	10	41	50	M12	32	K 10	40x36	55	30	35	5	42	7	M6	13	3x120°	24	X 12
18	185	12	165	10.5	8x45°	110	5	185	6	113	163	213	263	42	82	12	45	70	M16	36	K 11	48x44	55	30	35	5	42	7	M6	13	3x120°	24	X 12
22	185	12	165	10.5	8x45°	110	5	185	6	113	163	213	263	50	82	14	53.5	70	M16	36	K 13	48x44	55	30	43	5	50	7	M8	18	3x120°	29	X 14
28	185	12	165	10.5	8x45°	110	5	185	6	126	176	226	276	50	82	14	53.5	70	M16	36	K 13	48x44	55	30	43	5	50	7	M8	18	3x120°	29	X 14
32	185	12	165	10.5	8x45°	110	5	185	6	126	176	226	276	50	82	14	53.5	70	M16	36	K 13	48x44	55	30	43	5	50	7	M8	18	3x120°	29	X 14

Dimensions METRIC, hollow shafts											Hollow for Shrink Disc						Hollow Splined													
Model	A	la	B	db	vb	C	lc	D	p	l ₁	l ₂	l ₃	l ₄	Dp	lp	Dq	lq	Dw	lw	L min. of torque arm	code	Dz	lz	de	le	di	li	t	code	
15	185	12	165	10.5	8x45°	110	5	185	6	113	163	213	263	50	50	35	72	60	50		200	P 24	40x36	18	42	12	35	8.5	34	Z 21
18	185	12	165	10.5	8x45°	110	5	185	6	113	163	213	263	50	50	35	72	60	50		200	P 24	40x36	18	42	12	35	8.5	34	Z 21
22	185	12	165	10.5	8x45°	110	5	185	6	113	163	213	263	50	50	35	72	60	50		250	P 24	45x41	25	47	5	35	8.5	34	Z 23
28	185	12	165	10.5	8x45°	110	5	185	6	126	176	226	276	50	50	35	72	60	50		250	P 24	45x41	25	47	5	35	8.5	34	Z 23
32	185	12	165	10.5	8x45°	110	5	185	6	126	176	226	276	50	50	35	72	60	50		250	P 24	45x41	25	47	5	35	8.5	34	Z 23

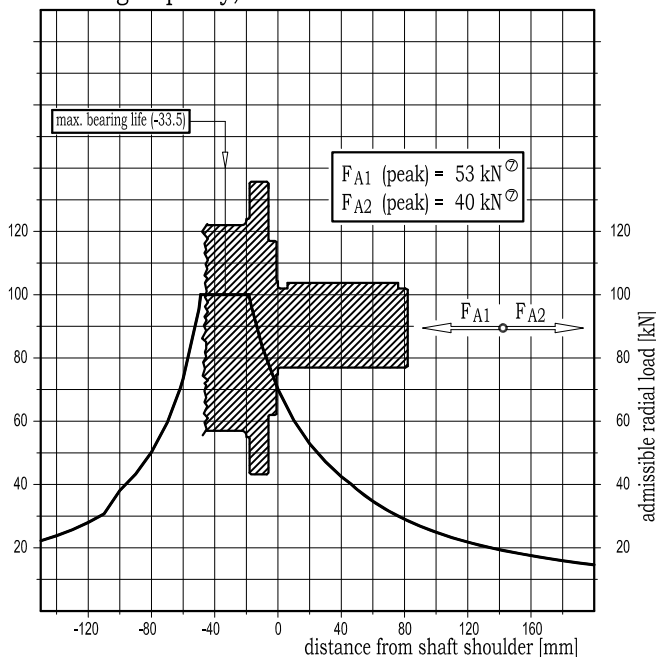
Dimensions US version, solid shafts											Cylindrical						ANSI Splined											
Model	Q	la	B	db	vb	C	lc	D	p	l ₁	l ₂	l ₃	l ₄	Dk	lk	bk	hk	wk	d1	s1	code	Dx	lx	ls	do	d2	s2	code
15	150	15	162	15	4x90°	127	6.5	185	15	104	154	204	254	38.1 h6	61	9.525	42.4	57.15	1/2"-13	32	K 30	12/24-17T	61	40.5	37.6 h11	3/8"-16	22.5	X 32
18	150	15	162	15	4x90°	127	6.5	185	15	104	154	204	254	38.1 h6	61	9.525	42.4	57.15	1/2"-13	32	K 30	12/24-17T	61	40.5	37.6 h11	3/8"-16	22.5	X 32
22	150	15	162	15	4x90°	127	6.5	185	15	104	154	204	254	57.15 h7	96.5	12.7	62.9	88.9	3/4"-10	44.5	K 33	8/16-16T	76.5	52	53.975 h6	3/4"-10	44.5	X 34
28	150	15	162	15	4x90°	127	6.5	185	15	117	167	217	267	57.15 h7	96.5	12.7	62.9	88.9	3/4"-10	44.5	K 33	8/16-16T	76.5	52	53.975 h6	3/4"-10	44.5	X 34
32	150	15	162	15	4x90°	127	6.5	185	15	117	167	217	267	57.15 h7	96.5	12.7	62.9	88.9	3/4"-10	44.5	K 33	8/16-16T	76.5	52	53.975 h6	3/4"-10	44.5	X 34

DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED

Model	15	18	22	28	32
Torque Rating ^①	1500 Nm	1800 Nm	2200 Nm	2800 Nm	3200 Nm
L1	RATIO (ACT. RATING) 3.3 (B) 5.0 (B) 6.9 (C) 3.8 (A) 6.1 (B)	RATIO (ACT. RATING) 3.3 (B) 5.1 (B) 4.3 (A)	RATIO (ACT. RATING) 3.7 (A) 4.4 (A)	RATIO (ACT. RATING) 3.7 (A) 5.8 (C) 5.0 (B) 6.9 (D)	RATIO (ACT. RATING) 4.3 (A) 5.1 (B)
n ₁ nom./max.	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm
P th ^② /max.	8.5/25 kW	8.5/26.5 kW	8.5/28 kW	9/30 kW	9/33 kW
L2	NOM. RATIO ^③ (ACT. RATING) 11 (B) 22 (A) 42 (B) 12 (A) 26 (A) 48 (C) 14 (A) 30 (B) 16 (B) 35 (B) 19 (A) 38 (B)	NOM. RATIO ^③ (ACT. RATING) 11 (B) 22 (A) 12 (B) 26 (A) 14 (A) 30 (A) 16 (A) 35 (B) 19 (B)	NOM. RATIO ^③ (ACT. RATING) 12 (A) 26 (A) 14 (A) 30 (A) 16 (A) 19 (A) 22 (A)	NOM. RATIO ^③ (ACT. RATING) 12 (A) 26 (A) 48 (D) 14 (A) 30 (B) 16 (B) 35 (B) 19 (A) 40 (C) 22 (A) 42 (D)	NOM. RATIO ^③ (ACT. RATING) 14 (A) 30 (A) 16 (A) 35 (B) 19 (B) 22 (A) 26 (A)
n ₁ nom./max.	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm
P th ^② /max.	5/15 kW	5/15.5 kW	5/16 kW	5.5/17 kW	5.5/19 kW
L3	NOM. RATIO ^③ (ACT. RATING) 42 (A) 120 (A) 300 (B) 48 (A) 130 (A) 340 (C) 53 (A) 160 (A) 63 (A) 180 (A) 71 (A) 210 (B) 85 (A) 240 (B) 100 (A) 260 (B)	NOM. RATIO ^③ (ACT. RATING) 48 (A) 130 (A) 53 (A) 150 (A) 60 (A) 160 (A) 71 (A) 180 (A) 85 (A) 210 (A) 100 (A) 240 (B) 110 (A)	NOM. RATIO ^③ (ACT. RATING) 42 (A) 110 (A) 48 (A) 130 (A) 53 (A) 150 (A) 60 (A) 160 (A) 71 (A) 180 (A) 85 (A) 210 (A) 100 (A)	NOM. RATIO ^③ (ACT. RATING) 42 (A) 120 (A) 300 (D) 48 (A) 140 (A) 340 (D) 53 (A) 160 (A) 63 (A) 180 (A) 71 (A) 210 (B) 85 (A) 240 (B) 100 (A) 280 (C)	NOM. RATIO ^③ (ACT. RATING) 48 (A) 130 (A) 53 (A) 150 (A) 60 (A) 160 (A) 75 (A) 180 (A) 85 (A) 210 (A) 100 (A) 240 (B) 110 (A)
n ₁ nom./max.	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm
P th ^② /max.	4/7 kW	4/7.5 kW	4/8 kW	4.5/10 kW	4.5/11 kW
L4	NOM. RATIO ^③ (ACT. RATING) 200 (A) 500 (A) 1250 (A) 240 (A) 600 (A) 1500 (B) 260 (A) 670 (A) 1700 (B) 280 (A) 710 (A) 1800 (B) 320 (A) 800 (A) 2000 (B) 360 (A) 900 (A) 2300 (C) 400 (A) 1000 (A) 450 (A) 1100 (A)	NOM. RATIO ^③ (ACT. RATING) 220 (A) 750 (A) 280 (A) 950 (A) 320 (A) 1050 (A) 380 (A) 1100 (A) 420 (A) 1250 (A) 500 (A) 1400 (A) 560 (A) 1500 (B) 670 (A) 1700 (B)	NOM. RATIO ^③ (ACT. RATING) 240 (A) 750 (A) 280 (A) 900 (A) 320 (A) 1050 (A) 360 (A) 1100 (A) 420 (A) 1250 (A) 500 (A) 1400 (A) 560 (A) 670 (A)	NOM. RATIO ^③ (ACT. RATING) 200 (A) 500 (A) 1250 (A) 240 (A) 600 (A) 1500 (B) 260 (A) 670 (A) 1700 (B) 280 (A) 710 (A) 1900 (C) 320 (A) 800 (A) 2000 (D) 360 (A) 900 (A) 2300 (D) 400 (A) 1000 (A) 450 (A) 1100 (A)	NOM. RATIO ^③ (ACT. RATING) 240 (A) 750 (A) 280 (A) 800 (A) 320 (A) 900 (B) 380 (A) 1050 (A) 420 (A) 1250 (A) 500 (A) 1400 (A) 560 (A) 1700 (B) 670 (B)
n ₁ nom./max.	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm	3000/4000 rpm
P th ^② /max.	3.5/2 kW	3.5/2.3 kW	3.5/2.5 kW	3.7/3 kW	3.7/3.5 kW
Actual Torque Rating [Nm] ^④	(A) 1700 (B) 1500 (C) 1300	(A) 2050 (B) 1800	(A) 2400	(A) 3200 (B) 2800 (C) 2600 (D) 2400	(A) 3700 (B) 3350
Peak Torque ^⑤	2000 Nm	2400 Nm	2800 Nm	3700 Nm	4100 Nm

Data and dimensions are not binding and may be modified without prior notice

Bearing Capacity, solid shafts^{⑥⑦}



- ① Harmonized nominal value referring to Preferred Numbers R'40. Actual transmissible torque may vary depending on ratio, speed, application.
- ② Harmonized nominal value referring to Preferred Numbers R'40. For actual ratios see Annex C.
- ③ Thermal power limit. For actual figures based on speed, temperature and duty see Section B4, Specifications, Paragraph 8.
- ④ Mean value at rated conditions. For actual figures based on speed, service life and application/duty see Section B4, Specifications, Paragraph 6.
- ⑤ Restrictions may apply for hollow shaft for shrink disc, see Section G, Output Accessories. Customer to verify the mating shaft is capable of loads actually transmitted.
- ⑥ Mean values at rated conditions. For actual admissible loads based on speed, service life and application/duty see Section B4, Specifications, Paragraph 9.
- ⑦ Max. peak values, which must never be exceeded. Combined thrust and radial shaft loads might reduce bearing life. Please contact Plan-Star Engineering for accurate life calculation of your specific application.
- ⑧ Combination of high torque and heavy radial shaft load might require verification of the output shaft. If the following condition is not fulfilled, contact Plan-Star Engineering for accurate verification of your specific application:

$$\frac{\text{Radial Load (applied)}}{\text{Radial Load (admissible)}} \times \frac{\text{Torque (applied)}}{\text{Torque (nominal)}} < 0.5$$