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SB01 (series)



Heavy duty hydraulic cylinder

This series of single-piston double-acting differential cylinders includes 36 kinds of specifications, each of which is specified by a combination of one of 18 bores and one of 2 ratios. Moreover, it is possible to have 384 kinds of specifications, considering the fact that the cylinder head flange, intermediate shaft pin and base mounting (3 factors) can also be those of a double-rod double-acting steady cylinder and in combination with whether there is cushion. Its mounting type and size are in accordance with German steel mills and ISO3320 standards. Especially suitable for adverse environment and where heavy load working status is required, this series is widely used in industrial sectors such as iron and steel, casting, forging and machinery manufacturing etc.

Model designation

D/d × S 10				※				Remarks	
Kinds: CD – differential cylinder CG – steady cylinder				Travel				Seal T – Slide ring combination seal Structure A – V-ring set	
Pressure: 250 – 25MPa 350 – 35Mpa								Oil medium M – Mineral oil, NBR seals V – Phosphate viton seals	
Mounting type: A – Tail single earring with bush B – Tail single earring with knuckle bearing C – Front flange D – Rear flange E – Intermediate shaft pin F – Base								Cushionr U –without cushion D–with cushionr	
Cylinder head and bottom connecting method: A. Both ends are connected by thread B. Head is connected by thread, and bottom by welding(D≤100)								Piston rod thread G – for earrings GA, GAK and SA A – for GAS earrings	
10 –10 series, 10–19 series with same size Thread 01 – British 02 – Metric								Piston rod material C – 45# steel, plated with hard chrome H – 50# steel, plated with hard chrome L – 1cr1 7Ni2, plated with hard chrome	

SB01 (series)

Heavy duty hydraulic cylinder

Working conditions:

- Working Pressure Mpa: 25、35
- Working temperature °C: -30 ~ +100
- Working medium: Mineral oil, phosphate oil, and water-glycol
- Medium viscosity cst: 2.8-380
- Working speed m/s: 0.5(possible to reach 15 years with special seal)

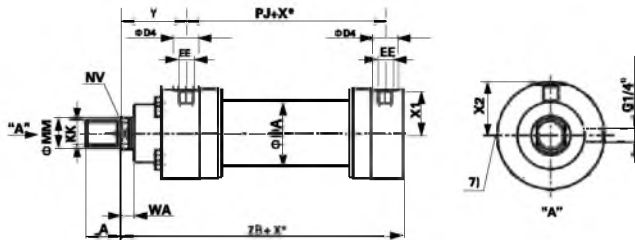
Specifications / technical parameters

Piston	Piston rod	Area ratio	Areas			Force at 250 bar ¹⁾			Flow at 0.1 m/s ²⁾		
			Piston	Rod	Annulus	Push	Regen.	Pull	Out	Regen.	In
AL φ mm	MM φ mm	A ₁ /A ₂	A ₁ cm ²	A ₂ cm ²	A ₃ cm ²	F ₁ kN	F ₂ kN	F ₃ kN	q _{v1} L/min	q _{v2} L/min	q _{v3} L/min
40	22	1.43	12.57	3.80	8.77	31.40	9.50	21.93	7.5	2.3	5.3
	28	1.96		6.16	6.41		15.40	16.03		3.7	3.8
50	28	1.46	19.64	6.16	13.48	49.10	15.40	33.70	11.8	3.7	8.1
	36	2.08		10.18	9.46		25.45	23.65		6.1	5.7
63	36	1.48	31.17	10.18	20.99	77.90	25.45	52.45	18.7	6.1	12.6
	45	2.04		15.90	15.27		39.75	38.15		9.5	9.2
80	45	1.46	50.27	15.90	34.36	125.65	39.75	85.90	30.2	9.5	20.7
	56	1.96		24.63	25.63		61.55	64.10		14.8	15.4
100	56	1.46	78.54	24.63	53.91	196.35	61.55	134.80	47.1	14.8	32.3
	70	1.96		38.48	40.06		96.20	100.15		23.1	24.0
125	70	1.46	122.72	38.48	84.24	306.75	96.20	210.55	73.6	23.1	50.5
	90	2.08		63.62	59.10		159.05	147.70		38.2	35.4
140	90	1.70	153.94	63.62	90.32	384.75	159.05	225.70	92.4	38.2	54.2
	100	2.04		78.54	75.40		196.35	188.40		47.1	45.3
160	100	1.64	201.06	78.54	122.50	502.50	196.35	306.15	120.6	47.1	73.5
	110	1.90		95.03	106.03		237.65	265.08		57.0	63.6
180	110	1.60	254.47	95.03	159.44	636.17	237.65	398.60	152.7	57.0	95.7
	125	1.93		122.72	131.75		306.80	329.37		73.6	79.1
200	125	1.64	314.16	122.72	191.44	785.25	306.80	478.45	188.5	73.6	114.9
	140	1.96		153.94	160.22		384.90	400.55		92.4	96.1
220	140	1.68	380.13	153.94	226.19	950.3	384.8	565.5	228.1	92.4	135.7
	160	2.12		210.06	179.1		502.6	447.7		120.7	107.4
250	160	1.69	490.88	201.06	289.8	1227.2	502.7	724.5	294.5	120.7	173.8
	180	2.08		254.47	236.4		636.2	591.0		152.7	141.8
280	180	1.70	615.75	254.47	361.3	1539.4	636.2	903.2	369.4	152.7	216.7
	200	2.04		314.16	301.6		785.4	753.9		188.5	180.9
320	200	1.64	804.25	314.16	490.1	2010.6	785.4	1225.2	482.5	188.5	294.0
	220	1.90		380.13	424.2		950.3	1060.3		228.1	254.4
360	200	1.45	1017.88	314.16	703.7	2544.7	785.4	1759.3	610.7	188.5	422.2
	220	1.60		380.13	637.7		950.3	1594.4		228.1	382.6
	250	1.93		490.88	527.0		1227.2	1317.5		294.6	316.1
400	220	1.43	1256.64	380.13	876.5	3141.6	950.3	2191.3	754.0	228.1	525.9
	250	1.64		490.88	765.8		1227.2	1914.4		294.6	459.4
	280	1.96		615.75	640.9		1539.4	1602.2		369.5	384.5
450	250	1.45	1590.44	490.88	1099.6	3976.1	1227.2	2748.9	954.2	294.6	659.6
	280	1.63		615.75	974.7		1539.4	2436.7		369.5	584.7
	320	2.02		804.25	786.2		2010.6	1965.5		482.5	471.7
500	280	1.46	1963.5	615.75	1347.7	4908.7	1539.4	3369.4	1178.0	369.5	808.5
	320	1.69		804.25	1159.2		2010.6	2898.1		482.5	695.5
	360	2.08		1017.88	945.6		2544.7	2364.0		610.8	567.2

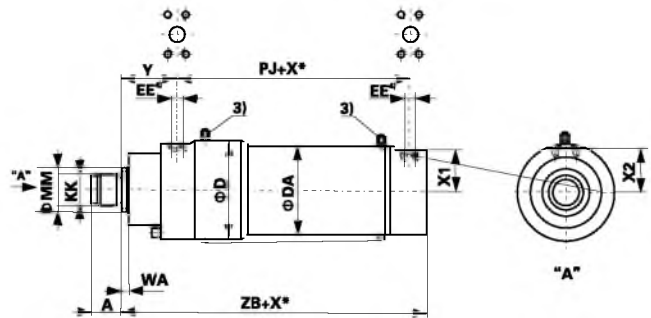
SB01 (series)

Heavy duty hydraulic cylinder

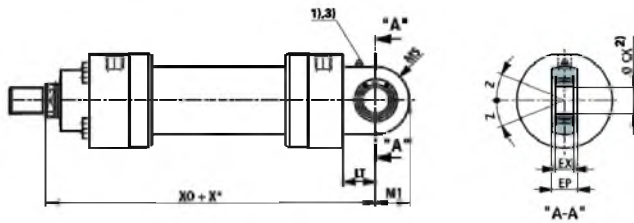
CD250; AL- ϕ 40-320 mm



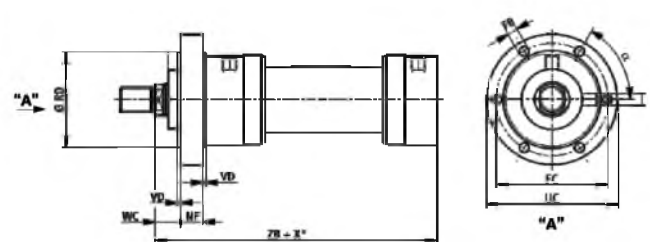
CD250; AL- ϕ 360-500 mm



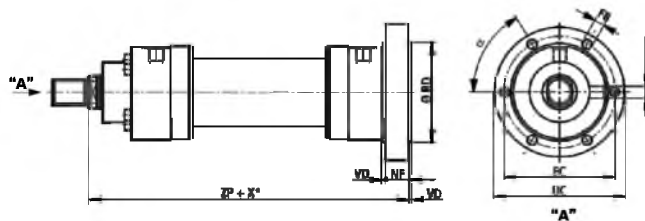
CD250 Mp5; AL- ϕ 40-320 mm



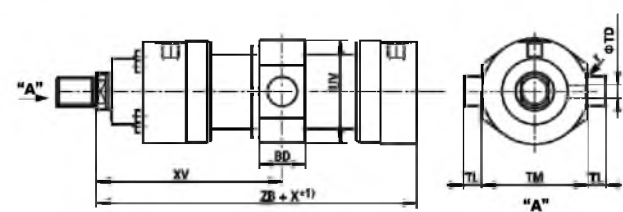
CD250 Mf3; AL- ϕ 40-320 mm



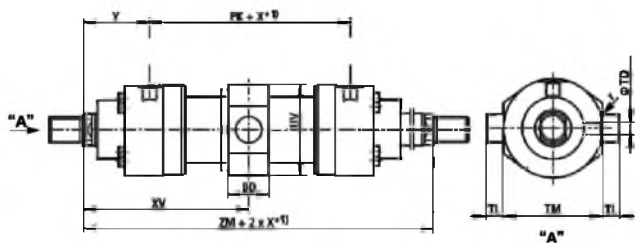
CD250 Mf4; AL- ϕ 40-320 mm



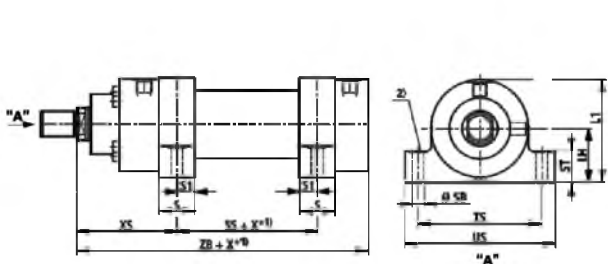
CD250 Mt4; AL- ϕ 40-320 mm



CD250 MT4;AL- ϕ 40-320 mm



CD250 MS2;AL- ϕ 40-320 mm



Heavy duty hydraulic cylinder

AL φ	MM φ	KK 5)	A 5)	KK 6)	A 6)	NV	D	DA	D4 2)	EE 4)	EE 4)	PJ	WA	X1	X2	Y	ZB
40	22 28	M16 × 1.5	16	M18 × 2	30	16 22	88	50	34	G 1/2	M22 × 1.5	120	14	41	41	79	226
50	28 36	M22 × 1.5	22	M24 × 2	35	22 30	102	60	34	G1/2	M22 × 1.5	120	18	48.5	48.5	87	233
63	36 45	M28 × 1.5	28	M30 × 2	45	30 36	120	78	42	G3/4	M27 × 2	133	22	56.5	56.5	100	262
80	45 56	M35 × 1.5	35	M39 × 3	55	36 46	140	95	42	G3/4	M27 × 2	146	20	67	67	104	280
100	56 70	M45 × 1.5	45	M50 × 3	75	46 60	170	125	47	G1	M33 × 2	171	30	82	82	124	330
125	70 90	M58 × 1.5	58	M64 × 3	95	60 75	206	150	58	G11/4	M42 × 2	205	32	99	99	135	382
140	90 100	M65 × 1.5	65	M80 × 3	110	75 85	226	170	58	G11/4	M42 × 2	219	35	109.5	109.5	156	420
160	100 110	M80 × 2	80	M90 × 3	120	85 95	265	190	65	G11/2	M48 × 2	240	40	129	129	185	475
180	110 125	M100 × 2	100	M100 × 3	140	95 110	292	210	65	G11/2	M48 × 2	264	40	142.5	142.5	199	515
200	125 140	M110 × 2	110	M110 × 4	150	110 120	310	235	65	G11/2	M48 × 2	278	40	152	152	205	535
220	140 160	M120 × 3	120	M120 × 4	160	120 140	355	273	65	G11/2	M48 × 2	326	40	174	174	242	635
250	160 180	M120 × 3	120	M120 × 4	160	140 160	395	305	65	G11/2	M48 × 2	326	40	194	194	266	659
280	180 200	M130 × 3	130	M150 × 4	190	160 180	425	343	65	G11/2	M48 × 2	375	40	210	210	282	744
320	200 220	—	—	M160 × 4	200	180 200	490	394	65	G11/2	M48 × 2	431	40	242	242	287	815
360	200 220 250	M150 × 3	147	—	—	—	456	419	—	NW51 ⁴⁾		418	40	200	217	280	765
400	220 250 280	M160 × 4	169	—	—	—	520	470	—	NW51 ⁴⁾		418	40	221	251	340	825
450	250 280 320	M180 × 4	186	—	—	—	570	521	—	NW51 ⁴⁾		448	40	256	276	340	855
500	280 320 360	M200 × 4	201	—	—	—	644	610	—	NW51 ⁴⁾		448	40	290	314	345	860

Notes

AL =Piston φ

MM =Piston rod φ

X' =Stroke length

Stroke and overall length tolerances to ISO 8135

¹⁾ =Bleed point; Viewed to the piston rod , this point is always offset by 90° (clockwise)with reference to the connection ports

²⁾ = φ D4 max 0 5mm deep

³⁾ =Coupling / bleed point

⁴⁾ =Flange connection see sepearte table page 34 and 35

⁵⁾ =Thread version "G"

⁶⁾ =Thread version "A"

⁷⁾ =Throttle valve only with end position cushioning "E" (180° with rega rd to bleeding point)

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