

Tie rod cylinders, Series 523

Grey series, 32–125 mm (1 1/4"-5") dia., magnetic piston, adjustable cushioning



Rexroth
Bosch Group

Technical Data

Standard		ISO 15552 (ISO 6431, VDMA 24562) CNOMO / NFE 49-003-1
Working pressure, max.		10 bar (145 psi)
Ambient temperature range		-20 °C to +70° C (-4 °F to +158 °F)
Medium	Compressed air	ISO 8573-1:2001, class 6-4-3 or lower*
Materials	Piston rod	Stainless steel (BS 303 S 31)
	Piston rod bushing	Steel with a PVDF + PTFE bearing surface
	Cylinder body	Anodized aluminum
	End covers	Aluminum
	Tie-rods	Surface treated steel
	Nut	Surface treated steel
	Wiper	Polyurethane
	Piston	32–63 mm (1 1/4"-2 1/2") dia. polyamide, 80–125 mm (3"-5") dia. Aluminum
	Cushioning screws	Stainless steel (BS 303 S 31)
Seals	Nitrile rubber/Polyurethane	

For use between -15 °C and -40 °C (+5 °F and -40 °F) continuously, seals for low temperature are recommended. Please contact your nearest Bosch Rexroth office.



Application area

This cylinder series is suitable for use when large masses are to be moved or where the stroke frequency is high: The packaging industry where high frequency and long service life is required, etc.

Approved by automotive manufacturers.

* Particle size ≤ 5 µm, dew point ≤ 3 °C, oil content ≤ 1 mg/m³

Technical information

Piston Ø		[mm] (inch)	32 (1 1/4")	40 (1 1/2")	50 (2")	63 (2 1/2")	80 (3")	100 (4")	125 (5")
Theoretical piston force at 6 bar (87 psi)	push stroke	[N]	483	754	1178	1870	3016	4712	7363
		(lbf)	(109)	(170)	(265)	(420)	(678)	(1059)	(1655)
	pull stroke	[N]	415	633	990	1682	2721	4418	6881
		(lbf)	(93)	(142)	(223)	(378)	(612)	(993)	(1547)
Cushioning length		[mm]	11,5	15,0	17,0	16,5	19,5	19,5	22,0
		(inch)	(0.5)	(0.6)	(0.7)	(0.6)	(0.8)	(0.8)	(0.9)
Cushioning energy ¹⁾		[Nm]	4,8	9,0	15,0	27,0	54,0	88,0	140,0
		(in.lbs)	(53.0)	(80.0)	(133.0)	(239.0)	(478.0)	(779.0)	(1239.0)
Weight	0 mm stroke	[kg]	0,45	0,76	1,10	1,17	2,50	3,70	6,90
		(lbs)	(0.99)	(1.68)	(2.43)	(2.58)	(5.51)	(8.16)	(15.21)
	add. per 100 mm	[kg]	0,20	0,29	0,45	0,49	0,78	1,00	1,31
	add. per 4"	(lbs)	(0.44)	(0.64)	(0.99)	(1.08)	(1.72)	(2.21)	(2.89)

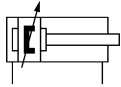
¹⁾ Cushioning diagram, see chapter 15.

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Part no.						
Piston dia. [mm] (inch)	32 (1 1/4")	40 (1 1/2")	50 (2")	63 (2 1/2")	80 (3")	
Piston rod thread	M 10 x 1,25	M 12 x 1,25	M 16 x 1,5	M 16 x 1,5	M 20 x 1,5	
Threaded port	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	
Stroke ²⁾						
25	5230030050	5231030050	5232030050	5233030050	5234030050	
50	5230030100	5231030100	5232030100	5233030100	5234030100	
80	5230030160	5231030160	5232030160	5233030160	5234030160	
100	5230030200	5231030200	5232030200	5233030200	5234030200	
125	5230030250	5231030250	5232030250	5233030250	5234030250	
160	5230030320	5231030320	5232030320	5233030320	5234030320	
200	5230030400	5231030400	5232030400	5233030400	5234030400	
250	5230030500	5231030500	5232030500	5233030500	5234030500	
320	5230030640	5231030640	5232030640	5233030640	5234030640	
400	5230030800	5231030800	5232030800	5233030800	5234030800	
500	5230031000	5231031000	5232031000	5233031000	5234031000	
Rec. max. stroke ²⁾	1600	1900	2100	2500	2800	
Piston dia. [mm] (inch)	100 (4")	125 (5")				
Piston rod thread	M 20 x 1,5	M 27 x 2				
Threaded port	G 1/2	G 1/2				
Stroke ²⁾						
25	5235030050	5236030050				
50	5235030100	5236030100				
80	5235030160	5236030160				
100	5235030200	5236030200				
125	5235030250	5236030250				
160	5235030320	5236030320				
200	5235030400	5236030400				
250	5235030500	5236030500				
320	5235030640	5236030640				
400	5235030800	5236030800				
500	5235031000	5236031000				
Rec. max. stroke ²⁾	2800	2750				






Optional strokes: See Ordering system for cylinders in optional design.


²⁾ Longer strokes on request. ³⁾ Intermediate strokes in steps of 5 mm may be delivered. See Ordering system for cylinders in optional design. Codification par configurateur internet.

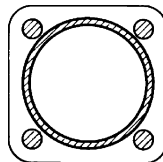
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▲ Accessories (to be ordered separately)					
Symbol	Type	32	40	50	63
	Piston dia. [mm] (inch)	32	40	50	63
	Front or rear flange (MF1/MF2)	5230006012	5231006012	5232006012	5233006012
	Angle brackets (MS1)	5230000502	5231000502	5232000502	5233000502
	Central male trunnion (MT4)	5230006902	5231006902	5232006902	5233006902
	Front or rear pivoted mounting (MT5/MT6)	5230816902	5231816902	5232816902	5233816902
	Rear end cover clevis (MP0)	5230003432	5231003432	5232003432	5233003432
	Rear eye with PTFE bushing (MP4)	1827001283	1827001284	1827001285	1827020086
	Rear clevis (MP2)	1827001289	1827001290	1827001291	1827001500
	Rear eye with rubber bushing (M32)	3683203000	3683204000	3683205000	3683206000
	Rear eye with ball joint (M36)	3683603000	3683604000	3683605000	3683606000
	Piston dia. [mm] (inch)	80	100	125	
	Front or rear flange (MF/MF2)	5234006012	5235006012	5236006012	
	Angle brackets (MS1)	5234000502	5235000502	5236000502	
	Central male trunnion (MT4)	5234006902	5235006902	5236006902	
	Front or rear pivoted mounting (MT5/MT6)	5234816902	5235816902	5236816902	
	Rear end cover clevis (MP0)	5234003432	5235003432	5236003432	
	Rear eye with PTFE bushing (MP4)	1827001287	1827001288	1827004866	
	Rear clevis (MP2)	1827001293	1827001294	1827004862	
	Rear eye with rubber bushing (M32)	3683208000	3683210000	–	
Rear eye with ball joint (M36)	5234003452	5235003452	5236003452		
	Piston dia. [mm] (inch)	32–125			
	Sensor with 2,5 m cable, Reed	2750132310		2750132310	
	Sensor with 2,5 m cable, PNP	2750131110		2750131110	
	Sensor mounting for the Grey Series (profile version 03)	∅ 32–63	2752115000	∅ 80–125	2752135000
	Piston dia. [mm] (inch)	32	40	50	63
	Rod clevis (P1)	1822122024	1822122025	1822122005	1822122005
	Rod clevis in stainless steel (P2)	3590502000	3590504000	3590505000	3590505000
	Mounting plate (P3)	5230816002	5231816002	5232816002	5232816002
	Ball eye rod end (P4)	1822124003	1822124004	1822124005	1822124005
	Flexible coupling (P5)	1826409002	1826409003	1826409004	1826409004
	Piston dia. [mm] (inch)	80	100	125	
	Rod clevis (P1)	1822122004	1822122004	1827001493	
	Rod clevis in stainless steel (P2)	3590508000	3590508000	–	
	Mounting plate (P3)	5234816002	5234816002	5236816002	
	Ball eye rod end (P4)	1822124006	1822124006	1822124013	
	Flexible coupling (P5)	1826409005	1826409005	1826409006	

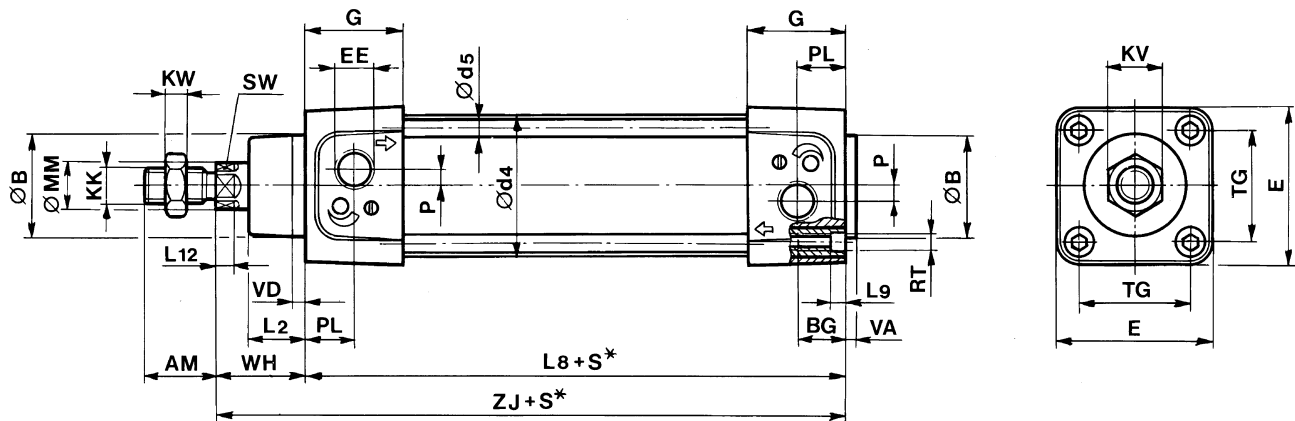
▲ Seal kit								
Symbol	Piston dia. [mm] (inch)	32 (1 1/4")	40 (1 1/2")	50 (2")	63 (2 1/2")	80 (3")	100 (4")	125 (5")
	Part no.	0490394303	0490394400	0490394508	0490394605	0490394702	2715534000	2715634000



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Tolerance $\varnothing 32-50 \text{ mm} = +2/-0$, $\varnothing 63-125 \text{ mm} = +2,5/-0$
S* = Stroke

Piston dia. [mm]	B e 11	d4	d5	E	G	L2	L8	L9	L12	P	EE	KK	MM g 8
32	30	36	5,5	49,5	28	15	94 ±0,4	5	6,0	4,0	G 1/8	M 10x1,25	12
40	35	44	5,5	54,5	33	19	105 ±0,7	5	6,5	5,0	G 1/4	M12x1,25	16
50	40	54	7,5	67,0	31	24	106 ±0,7	6	8,0	7,5	G 1/4	M16x1,5	20
63	45	68	7,5	78,0	38	24	121 ±0,8	6	8,0	11,0	G 3/8	M16x1,5	20
80	45	85	9,0	100,0	38	30	128 ±0,8	–	10,0	11,0	G 3/8	M 20x1,5	25
100	55	107	9,0	120,0	42	35	138 ±1,0	–	10,0	17,0	G 1/2	M 20x1,5	25
125	60	131	10,8	145,0	54	45	160 ±1,0	–	13,0	27,5	G 1/2	M 27x2	32

Piston dia. [mm]	AM	BG min.	KV	KW	PL	RT	SW	TG	VA	VD	WH	ZJ
32	22	16	17	5,0	16	M6	10	32,5 ±0,5	3,5	4	26	120
40	24	16	18	6,0	17	M6	13	38,0 ±0,5	3,5	4	30	135
50	32	16	24	8,0	16	M8	17	46,5 ±0,6	4,0	4	37	143
63	32	16	24	8,0	19	M8	17	56,5 ±0,7	4,0	4	37	158
80	40	16	30	10,0	19	M 10	22	72,0 ±0,7	4,0	4	46	174
100	40	16	30	10,0	19	M 10	22	89,0 ±0,7	4,0	4	51	189
125	54	20	41	13,5	20	M12	27	110,0 ±1,1	6,0	6	65	225