

Rolling diaphragm cylinders, Series RDC

Technical data



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Single acting, 52,5-115 dia.

Rexroth
Bosch Group

Technical Data

Type	Rolling diaphragm cylinder	
Working pressure p max.	8 bar (116 psi)	
Ambient temperature range	-25 °C to +80 °C (-13 °F to +176 °F)	
Medium	Compressed air, lubricated or non-lubricated	
Material	Piston rod	X 40 Cr 13, hardened
	Cylinder tube	St 35
	Covers	Aluminium
	Seals	NBR

Application area

Cylinder with extremely low friction for sensitive force control. Particularly suitable for pressure regulation with electro-pneumatic pressure control valves.

Caution!

Piston rod only to be moved by compressed air (min. 0,1 bar) (min 1 psi) on port "A". Exhaust "B" may not be closed.



Technical information




Effective piston dia.	[mm]	52,5	75	85	95	115
Piston forces at 6 bar (87 psi), theoretical	[N] (lbf)	1274 (286)	2599 (584)	3338 (750)	4170 (938)	6110 (1374)
Weight	[kg] (lbs)	1,6 (3.5)	3 (6.6)	3,6 (7.9)	4,1 (9)	5,8 (12.8)

Part no.

Piston Ø Piston rod thread (P) Threaded ports ¹⁾	52,5	75	85	95	115
	M 10 x 1,25 G 1/8	M 10 x 1,25 G 3/8	M 16 x 1,5 G 1/4	M 16 x 1,5 G 3/8	M 16 x 1,5 G 3/8
max. stroke					
40	5218535110	-	-	-	-
60	-	5218555110	-	-	-
70	-	-	5218565110	-	-
75	-	-	-	5218575120	-
95	-	-	-	-	5218585120

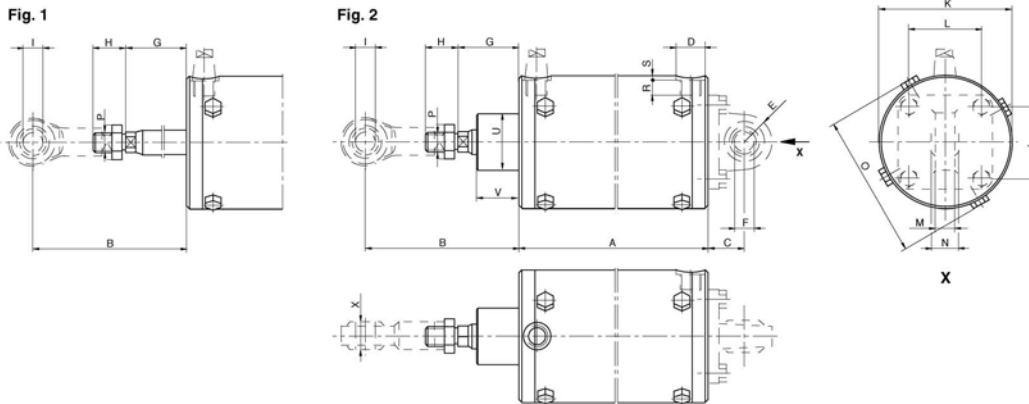
¹⁾ to ISO 228/1

Accessories (to be ordered separately)

Accessory	Type	52,5	75	85	95	115
	Piston dia.	52,5	75	85	95	115
	Rear clevis	5220163442	5220363442	5220463442	5220463442	5220563442
	Piston dia.	52,5	75	85	95	115
	Ball eye rod end	1822124003	1822124003	1822124005	1822124005	1822124005
	Piston dia.	52,5	75	85	95	115
	Spare part kit	5218530012	5218550012	5218560012	5218570012	5218580012
	Spare parts	Catalogue	Catalogue	see separate catalogue Catalogue	Catalogue	Catalogue

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Piston Ø	Fig.	A	B	C	D	E	F ^{H7}	G	H	I	K	L	M	N	O	P	R	S	U	V
52,5	1	140	67	29	18	14	10	19	26	10	60	33	9	14	68	M 10 x 1,25	8	3	-	-
75	1	166	83	26	23	18	12	32	31	10	86	49	11	16	94	M 10 x 1,25	12	3,5	-	-
85	1	202	118	30	22	22	16	43	26	16	97	59	17,5	21	108	M16x1,5	12	3,5	-	-
95	2	208	124	30	23	22	16	49	26	16	106	59	17,5	21	117	M16x1,5	12	3,5	45	34
115	2	247	120	37,5	23	25	16	45,5	26	16	127	75	17,5	21	138	M16x1,5	12	3,6	45	33

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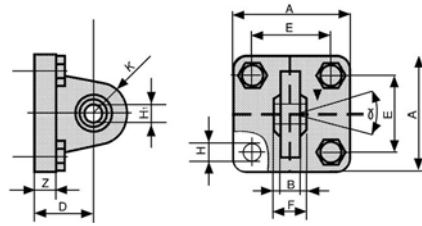
Cylinder mounting, piston rod adapter and silencer

Rexroth
Bosch Group



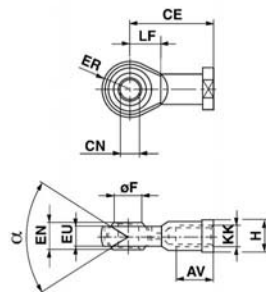
Rear clevis

ISO 6431



Piston Ø	Part no.	A	B	D	E	F	H	H1 H7	K	Z	α°
52,5	5220163442	45	10,5	29	33	14	7,5	10	15	8	26
75	5220363442	65	12	26	49	16	10	12	18	10	26
85	5220463442	75	15	30	59	21	10	16	22	10	18
95	5220463442	75	15	30	59	21	10	16	22	10	18
115	5220563442	95	15	37,5	75	21	12	16	25	12	18

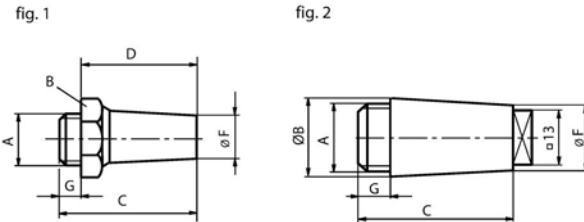
Material: Al Mg Si 1 F 31.



Thread KK	Part no.	AV	CE	CN H 7	EN - 0,1	EU	ER max	F	H	LF	α°
M10x1,25	1822124003	20	43	10	14	10,5	14	12,9	17	14	26
M16x1,5	1822124005	28	64	16	21	15	21	19,3	22	21	30

Material: zinc plated steel, with hardened swivel bearing (maintenance free). The nut is delivered with the cylinder.

▲ ● Silencer



Part no.	A	B	C	D	F	G	Fig.
5324011100	G 1/8	13 A/F	24	18	6	6	1
5324011110	G 1/4	17 A/F	33	25	8,5	8	1
5324011220	G 3/8	18	35	-	15,5	9	2

Sound pressure level to DIN 45 635: 65 dBA Material: sintered bronze Operating pressure p max.: 10 bar (145 psi)
Ambient temperature range: -25°C to + 80°C (-13° F to 176° F)

NOTICES TO PRODUCT USERS

1. WARNING: FLUID MEDIA

Bosch Rexroth pneumatic devices are designed and tested for use with filtered, clean, dry, chemical free air at pressures and temperatures within the specified limits of the device. For use with media other than air or for human life support systems, Bosch Rexroth must be consulted. Hydraulic cylinders are designed for operation with filtered, clean, petroleum based hydraulic fluid; operation using fire-resistant or other special types of fluids may require special packing and seals. Consult the factory.

2. WARNING: MATERIAL COMPATIBILITY

Damage to product seals or other parts caused by the use of non-compatible lubricants, oil additives or synthetic lubricants in the air system compressor or line lubrication devices voids Bosch Rexroth's warranty and can result in product failure or other malfunction. See lubrication recommendations below.

AIR LINE LUBRICANTS! In service higher than 18 cycles per minute or with continuous flow of air through the device, an air line lubricator is recommended.* (Do not use line lubrication with vacuum products.) However, the lubricator must be maintained since the oil will wash out the grease, and lack of lubrication will greatly shorten the life expectancy. The oils used in the lubricator must be compatible with the elastomers in the device. The elastomers are normally BUNA-N, NEOPRENE, VITON, SILICONE and HYTREL. Bosch Rexroth recommends the use of only petroleum based oils without synthetic additives, and with an aniline point between 180° F and 210° F.

COMPRESSOR LUBRICANTS! All compressors (with the exception of special "oil free" units) pass oil mist or vapor from the internal crankcase lubricating system through to the compressed air. Since even small amounts of non-compatible lubricants can cause severe seal deterioration (which could result in component and system failure) special care should be taken in selecting compatible compressor lubricants. It is recommended that users review the National Fluid Power Association "Recommended Guide Lines For Use Of Synthetic Lubricants In Pneumatic Fluid Power Systems" (NFPA T1.9.2-1978).

3. WARNING: INSTALLATION AND MOUNTING

The user of these devices must conform to all applicable electrical, mechanical, piping and other codes in the installation, operation or repair of these devices.

INSTALLATION ! Do not attempt to install, operate or repair these

--Refer to the appropriate service catalog for parts and service information.

devices without proper training in the technique of working on pneumatic or hydraulic systems and devices, unless under trained supervision.

Compressed air and hydraulic systems contain high levels of stored energy. Do not attempt to connect, disconnect or repair these products when a system is under pressure. Always exhaust or drain the pressure from a system before performing any service work. Failure to do so can result in serious personal injury.

MOUNTING! Devices should be mounted and positioned in such a manner that they cannot be accidentally operated.

4. WARNING: APPLICATION AND USE OF PRODUCTS

The possibility does exist for any device or accessory to fail to operate properly through misuse, wear or malfunction. The user must consider these possibilities and should provide appropriate safe guards in the application or system design to prevent personal injury or property damage in the event of a malfunction.

5. WARNING: CONVERSION, MAINTENANCE AND REPAIR

When a device is disassembled for conversion to a different configuration, maintenance or repair, the device must be tested for leakage and proper operation after being reassembled and prior to installation.

MAINTENANCE AND REPAIR! Maintenance periods should be scheduled in accordance with frequency of use and working conditions. All Bosch Rexroth products should provide a minimum of 1,000,000 cycles of maintenance free service when used and lubricated as recommended. However, these products should be visually inspected for defects and given an "in system" operating performance and leakage test once a year. Where devices require a major repair as a result of the one million cycles, one year, or routine inspection, the device must be disassembled, cleaned, inspected, parts replaced as required, rebuilt and tested for leakage and proper operation prior to installation. See individual catalogs for specific cycle life estimates.

6. PRODUCT CHANGES

Product changes including specifications, features, designs and availability are subject to change at any time without notice. For critical dimensions or specifications, contact factory.

*Many Bosch Rexroth pneumatic valves and cylinders can operate with or without air line lubrication; see individual sales catalogs for details.

LIMITATIONS OF WARRANTIES & REMEDIES

Bosch Rexroth warrants its products sold by it to be free from defects in material and workmanship to the following:

For twelve months after shipment Bosch Rexroth will repair or replace (F.O.B. our works), at its option, any equipment which under normal conditions of use and service proves to be defective in material or workmanship at no charge to the purchaser. No charge will be made for labor with respect to defects covered by this Warranty, provided that the work is done by Bosch Rexroth or any of its authorized service facilities. However, this Warranty does not cover expenses incurred in the removal and reinstallation of any product, nor any downtime incurred, whether or not proved defective.

All repairs and replacement parts provided under this Warranty policy will assume the identity, for warranty purposes, of the part replaced, and the warranty on such replacement parts will expire when the warranty on the original part would have expired. Claims must be submitted within thirty days of the failure or be subject to rejection.

This Warranty is not transferable beyond the first using purchaser. Specifically, excluded from this Warranty are failures caused by misuse, neglect, abuse, improper operation or filtration, extreme temperatures, or unauthorized service or parts. This Warranty also excludes the use of lubricants, fluids or air line additives that are not compatible with seals or diaphragms used in the products. This Warranty sets out the purchaser's exclusive remedies with respect to products covered by it, whether for negligence or otherwise. Neither Bosch Rexroth nor any of its affiliates will be liable for consequential or incidental damages or other losses or expenses incurred by reason of the use or sale of such products. Our liability (except as to title) arising out of the sale, use or operation of any product or parts, whether on warranty, contract or negligence (including claims for consequential or incidental damage) shall not in any event exceed the cost of replacing the defective products and, upon expiration of the warranted period as herein provided, all such liability is terminated. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHETHER FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE. No attempt to alter, amend or extend this Warranty shall be effective unless authorized in writing by an officer of Bosch Rexroth Division.

Bosch Rexroth reserves the right to discontinue manufacture of any product, or change product materials, design or specifications without notice.

This is a Year 2000 Readiness disclosure as defined and used in the Year 2000 Information and Readiness Disclosure Act:

Notwithstanding any provision to the contrary, Seller acknowledges the potential Year 2000 problem and hereby promises to use its good faith, best efforts to attempt to be Year 2000 Compliant as soon as practicable. "Year 2000 Compliant" means that Seller's goods and services will be designed to be used prior to, during, and after calendar year 2000 A.D., and to operate during each such time period without substantive error relating to date data, specifically including any substantive error relating to, or the product of, date data which represents or references different centuries or more than one century, and will recognize the calendar year 2000 A.D. as a leap year.

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