

Cylinders made to ISO 15552 available in various versions and with a wide range of accessories:

- Configuration with or without magnet
- Single-or double acting – single-or through-rod
- Wide choice of NBR, POLYURETHANE and FKM/FPM gaskets (for high temperatures), for LOW TEMPERATURE
- Piston rod scrapers for use in hostile environments available
- Special versions on request
- Fixing accessories, guide units and mechanical rod lock.

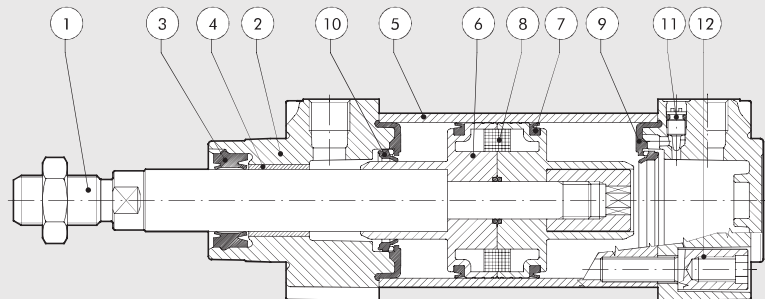
They are available in three versions, series STD, type A, series 3 which differ according to the shape of the barrel and, consequently, the type of sensors and accessories that can be mounted.



TECHNICAL DATA		Ø32	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125
Max operating pressure	bar					10		
	MPa					1		
	psi					145		
Temperature range	POLYURETHANE					-25 to +80		
	NBR					-10 to +80		
	FKM/FPM					-10 to +150 (non-magnetic cylinders)		
	Low Temperature					-40 to +80		
	Other piston rod gasket					See next page		
Design		Heads with Tap Tite screws						
Fluid		Unlubricated air. Lubrication, if used, must be continuous						
Standard stroke †	single-acting	mm	1 to 250	1 to 250	1 to 250	1 to 250	-	-
	double-acting with spring	mm	1 to 250	1 to 250	1 to 250	1 to 250	-	-
	double-acting	mm	1 to 2800	1 to 2800	1 to 2800	1 to 2800	1 to 2800	1 to 2600
Versions		Double-acting cushioned, Double-acting cushioned with spring, extended or retracted piston rod, Single-acting extended or retracted rod cushioned, Through-rod cushioned, Long cushioning, High-temperature, Rod lock, Oil seal, Through-rod oil seal, Low friction, No stick-slip.						
Sensor magnet		All versions come complete with magnet. Supplied without magnet on request.						
Inrush pressure	bar	0.4	0.4	strokes < 1500 mm: 0.3		strokes < 1500 mm: 0.2		
	bar			strokes > 1500 mm: 0.4		strokes > 1500 mm: 0.4		
	for type-R gasket	bar	1.5	1	1	0.8	0.5	0.5
Forces generated at 6 bar thrust/retraction		See cylinder "General technical data" at the beginning of the chapter						
Weights		See cylinder "General technical data" at the beginning of the chapter						
Notes		<b>For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air.</b>						
		† Maximum recommended strokes. Higher values can create operating problems						

## COMPONENTS

- 1 PISTON ROD: C45 steel or stainless steel, thick chromed
- 2 HEAD: die cast aluminium
- 3 PISTON ROD GASKET: polyurethane, NBR, FKM/FPM, FKM/FPM with metal scraper
- 4 GUIDE BUSHING: steel strip with bronze and PTFE insert
- 5 BARREL: drawn anodized calibrated aluminium
- 6 HALF-PISTON: self-lubricating technopolymer with built-in cushioning olives (aluminium with PTFE pad for diameters 80-100-125)
- 7 PISTON GASKET: polyurethane, NBR or FKM/FPM
- 8 MAGNET: plastoferrite
- 9 BUFFER + Static O-rings: NBR or FKM/FPM
- 10 CUSHIONING GASKET: polyurethane, NBR or FKM/FPM



OVERVIEW OF SEALS AND SCRAPERS

	Code identifier	Key feature	Applications	Gasket material	Temperature range	Notes
①	....N	General use.	Standard applications, also with humidity.	NBR	-10 to +80 °C	
②	....P	Long life.	Applications with long strokes or high number of cycles.	Polyurethane	-25 ÷ +80 °C	
③	....V	High temperatures - chemicals.	Industrial applications with chemical agents and/or at high temperatures.	FPM/FKM	-10 to +150 °C (non magnetic cylinders)	
④	....B	Low temperatures.	Applications in presence of low temperature such as in cold environments.	NBR	-40 to +80 °C	
⑦	....C	Dirt and dust. Reference name: COMBI	Applications in dirty and dusty environments.	Scraper made of technopolymer, the other seals are made of NBR.	-10 to +80 °C	Maximum recommended speed: 1 m/s
⑧	....R	Dirt and low temperatures. Reference name: HARD PU	Medium-Heavy duty applications, with presence of dirt and low temperatures, such as in agriculture or in transport sector.	Piston rod seal made of hard polyurethane, the other seals are made of polyurethane.	-25 to +80 °C	Low temperature versions for a minimum temperature of -35°C are available on request.
⑨	....M	Dirt and high temperature. Reference name: METAL	Heavy duty applications, in presence of hard dirt and high temperatures, like in cement plants, foundries or in transport sector.	Metal scraper, the other seals are made of FKM/FPM.	-10 to +150 °C	Not available in Ø 32. The scraper is housed in a special head.

SEALS USED IN OTHER FAMILIES OF ISO 15552 CYLINDERS

①	123.... only for series 3	Ultra low friction.	Textile industry, dandy devices, pneumatic springs.	NBR	-10 to +80 °C	
⑩	....BL and ....WL	HCR (High Corrosion Resistance)	Food and Beverage sector, such as dairy industry.	Anti-stagnation scraper made of special polyurethane, the other seals are made of NBR.	-10 to +60 °C	
②	W184... W185...	INOX	Industrial applications with aggressive chemical agents.	Polyurethane	-20 to +80 °C	
③	W184V... W185V...	Stainless steel high temperature.	Industrial applications, in presence of chemicals and high temperatures requested, such as in chemical plants.	FKM/FPM	-10 to +150 °C	

SEALS AVAILABLE ON REQUEST

⑥	Only on request	Self lubricated.	Applications where the lubricants in the cylinder could be removed, such as in car washing plants.	Self lubricated tecnopolymer.	-30 to +80 °C	
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Anti-contamination Effect Indicators

An index of protection against the dirt that settles and adheres to the piston rod is provided for each version, on a 1 to 100 scale.

3 1 4 2 7

10 6

8

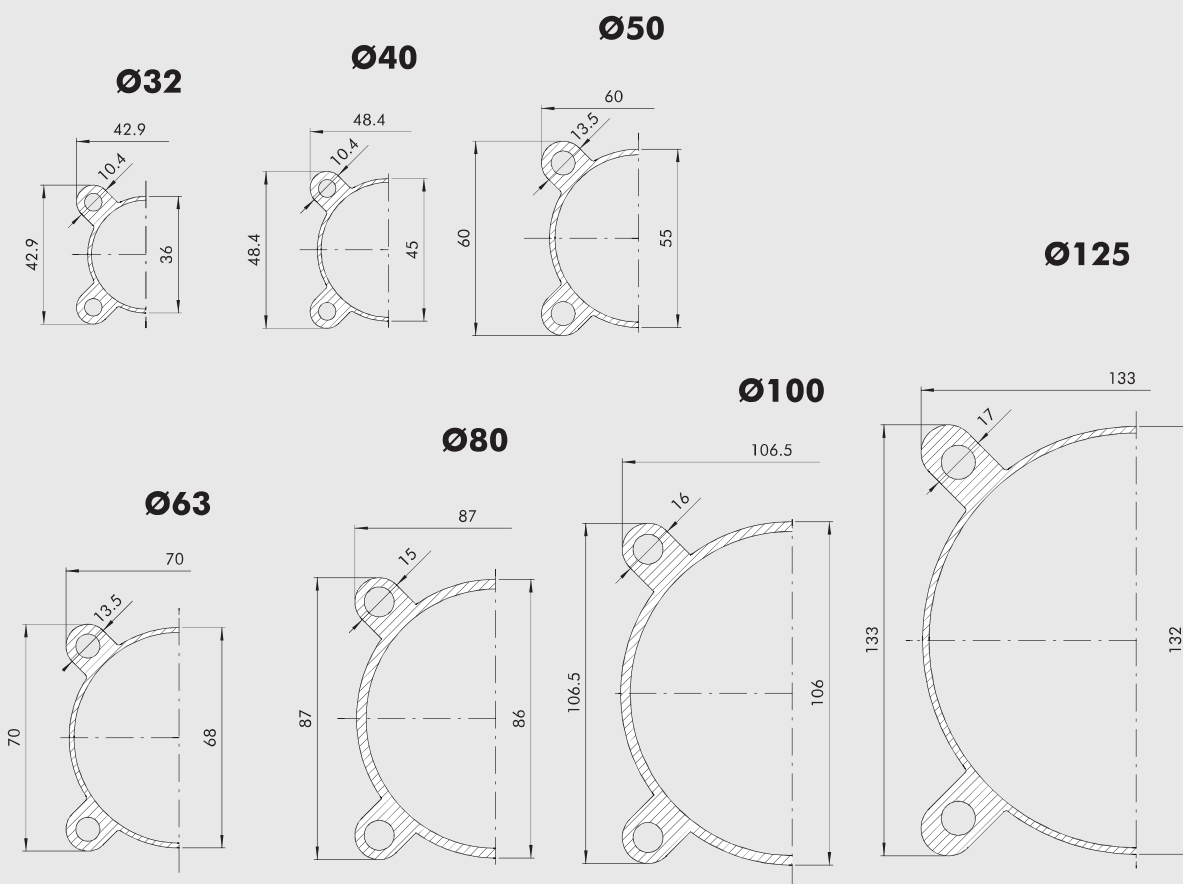
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# ISO 15552 CYLINDER SERIES STD

ISO 15552 cylinders, featuring a smooth barrel with no longitudinal slots. This means it is easier to clean the cylinder and there are fewer points where dirt can collect. Specific brackets are required for mounting magnetic sensors.



## BARREL CROSS SECTION



**KEY TO CODES**

CYL	1 2 1	0	3 2	0 0 5 0	C	P	E
	TYPE	VERSION	BORE	STROKE	MATERIAL	GASKETS	
	120 Double-acting, cushioned, non-magnetic	0 Diameter	32	For the maximum	A C45 chromed piston rod, aluminium piston: standard for all cylinders with $\geq 1000$ mm-stroke cylinders and for cylinder with $\geq 80$ mm and over	N NBR gaskets	+ ▼ E Single-acting extended rod or double-acting with spring, extended piston rod
	121 Double-acting, cushioned	S Non-magnetic	40	suppliable strokes, look at the technical data	C C45 chromed piston rod, technopolymer piston: standard for cylinders of $\geq 32$ to 63 mm with $< 1000$ mm strokes	P Polyurethane gaskets	+ * R Double-acting with spring, retracted piston rod
●	122 Through-rod	▲ G No stick-slip	50		Z Stainless steel piston rod and nut aluminium piston	V FKM/FPM gaskets	* 1 + Secure Lock with manual control
	124 Double-acting, non-cushioned		63		X Stainless steel piston rod and nut technopolymer piston	B Low temperature "Combi" piston rod gasket	* 2 + Secure Lock without manual control
	125 Opposed		80			C "Hard PU" piston rod gasket	
+	126 Single-acting		100			R "Metal" piston rod gasket	
▷	127 Tandem		125			M "Metal" piston rod gasket	
	134 Version suitable for rod lock						
* ▷	136 Version with rod lock						
* ♦ ▷	137 Version suitable for rod lock + guide unit						

- In the code of cylinder with letter in fourth position  $\varnothing 100$  becomes A1;  $\varnothing 125$  becomes A2
- Only available for versions with aluminium piston (A or Z)
- + Available until  $\varnothing 63$  and only the versions with piston in aluminum (A or Z). The versions without the final "E" are to be considered with retracted piston rod
- Not available in  $\varnothing 32$
- ▲ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only.
- ♦ Available up to  $\varnothing 100$

- \* Not available for gaskets V or B
- ▷ Not available for single-acting and double-acting with spring versions
- ▼ Letter to be added only to the single acting extended piston rod version or double-acting with spring, extended piston rod
- \* Letter to be added only for the double-acting version with spring, retracted piston rod
- ★ Extra digit to be added only for types 136 with the "Secure Lock" device
- ▶ The 126 (single-action) type and the (No-stick-slip) version G are not available

**KEY TO CODES VERSION LOW-FRICTION**

CYL	1 2 3	A	3 2	0 0 5 0	C	P
		TYPE	BORE	STROKE	MATERIAL	GASKETS
		A Low friction, type A	32	$\varnothing 32$ to 80	A C45 chromed piston rod, aluminium piston: standard for all cylinders with $\geq 1000$ mm-stroke cylinders and for cylinder with $\geq 80$ mm and over	N NBR gaskets
		B Low friction, type B	40	stroke 1 to 2800 mm	C C45 chromed piston rod, technopolymer piston: standard for cylinders of $\geq 32$ to 63 mm with $< 1000$ mm strokes	P Polyurethane gaskets
		C Low friction, type C	50	$\varnothing 100$ to 125	Z Stainless steel piston rod and nut aluminium piston	V FKM/FPM gaskets
		D Low friction, type D	63	stroke 1 to 2600 mm	X Stainless steel piston rod and nut technopolymer piston	
		E Low friction, type E	80			
		F Low friction, type F	A1 = $\varnothing 100$ A2 = $\varnothing 125$			

**KEY TO CODES VERSION LONG-CUSHIONING**

CYL	1 3 1	A	3 2	0 0 5 0	A	P
		TYPE	BORE	STROKE	MATERIAL	GASKETS
		A 200 mm front/rear cushioning cone - 200 mm ext.	32	1 to 2600 mm	A C45 chromed rod, aluminium piston rod for all sizes	N NBR gaskets
		B 150 mm front/rear cushioning cone - 150 mm ext.	40		Z Stainless steel piston rod and nut aluminium piston	P Polyurethane gaskets
		C 100 mm front/rear cushioning cone - 100 mm ext.	50			* V FKM/FPM gaskets
		D 150 mm front/rear cushioning cone - 200 mm ext.	63			
		E 100 mm front/rear cushioning cone - 200 mm ext.				
		F 50 mm front/rear cushioning cone - 100 mm ext.				
		G 100 mm front/rear cushioning cone - 150 mm ext.				
		H 200 mm front cushioning cone - 200 mm ext.				
		I 150 mm front cushioning cone - 150 mm ext.				
		L 100 mm front cushioning cone - 100 mm ext.				
		M 150 mm front cushioning cone - 200 mm ext.				
		N 100 mm front cushioning cone - 150 mm ext.				
		O 50 mm front cushioning cone - 100 mm ext.				
		Q 200 mm rear cushioning cone - 200 mm ext.				
		R 150 mm rear cushioning cone - 150 mm ext.				
		S 100 mm rear cushioning cone - 100 mm ext.				

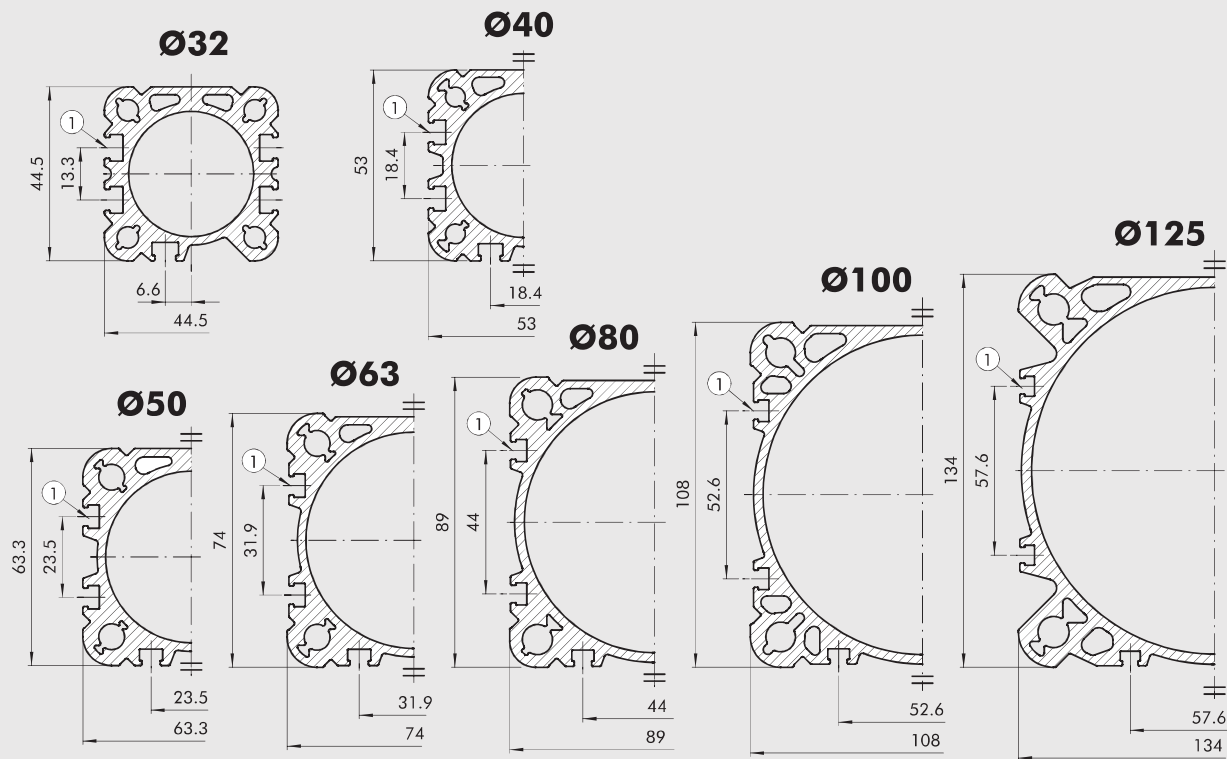
# ISO 15552 CYLINDER TYPE A

ISO 15552 cylinders, featuring a barrel with longitudinal slots on three sides for inserting and securing retractable sensors. The same slots can also be used for valves and other mechanical parts.



## BARREL CROSS SECTION

① SLOTS FOR RETRACTABLE SENSOR



KEY TO CODES

CYL	1 2 1 TYPE	A VERSION	3 2 BORE	0 0 5 0 STROKE	C MATERIAL	P GASKETS	E
	121 Double-acting, cushioned	A Standard	32	For the maximum	A C45 chromed piston rod, aluminium piston: standard for all cylinders with $\geq 1000$ mm-stroke cylinders and for cylinder with $\geq 80$ mm and over	N NBR gaskets	+ ▼ E Single-acting extended rod or double-acting with spring, extended piston rod
●	122 Through-rod	▲ B No stick-slip	40	suppliable strokes, look at the technical data	C C45 chromed piston rod, technopolymer piston: standard for cylinders of $\varnothing 32$ to 63 mm with <1000 mm strokes	P Polyurethane gaskets	+ ✕ R Double-acting with spring, retracted piston rod
	124 Double-acting, non-cushioned	C Non-magnetic	50		Z Stainless steel piston rod and nut aluminium piston	V FKM/FPM gaskets	★ 1 + Secure Lock with manual control
+	125 Opposed		63		X Stainless steel piston rod and nut technopolymer piston	● B Low temperature	★ 2 + Secure Lock without manual control
	126 Single-acting		80			C "Combi" piston rod gasket	
▷	127 Tandem		A1 = $\varnothing 100$			▶ R "Hard PU" piston rod gasket	
* ▷	134 Version suitable for rod lock		A2 = $\varnothing 125$			● □ M "Metal" piston rod gasket	
* ▷	136 Version with rod lock						
* ◆ ▷	137 Version suitable for rod lock + guide unit						

- Only available for versions with aluminium piston (A or Z)
- + Available until  $\varnothing 63$  and only the versions with piston in aluminium (A or Z). The versions without the final "E" are to be considered with retracted piston rod.
- Not available in  $\varnothing 32$
- ▼ Letter to be added only to the single acting extended piston rod version or double-acting with spring, extended piston rod
- \* Letter to be added only for the double-acting version with spring, retracted piston rod

- ★ Extra digit to be added only for types 136 with the "Secure Lock" device
- ▲ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only.
- ◆ Available up to  $\varnothing 100$
- \* Not available for gaskets V or B
- ▷ Not available for single-acting and double-acting with spring versions
- ▶ The 126 (single-action) type and the (No-stick-slip) version B are not available

KEY TO CODES VERSION LOW-FRICTION

CYL	1 2 3 TYPE	A BORE	0 0 5 0 STROKE	C MATERIAL	P GASKETS
	A Low friction, type A	32	$\varnothing 32$ to 80	A C45 chromed piston rod, aluminium piston: standard for all cylinders with $\geq 1000$ mm-stroke cylinders and for cylinder with $\geq 80$ mm and over	N NBR gaskets
	B Low friction, type B	40	stroke 1 to 2800 mm	C C45 chromed piston rod, technopolymer piston: standard for cylinders of $\varnothing 32$ to 63 mm with <1000 mm strokes	P Polyurethane gaskets
	C Low friction, type C	50	$\varnothing 100$ to 125	Z Stainless steel piston rod and nut aluminium piston	V FKM/FPM gaskets
	D Low friction, type D	63	stroke 1 to 2600 mm	X Stainless steel piston rod and nut technopolymer piston	
	E Low friction, type E	80			
	F Low friction, type F	A1 = $\varnothing 100$ A2 = $\varnothing 125$			

KEY TO CODES VERSION LONG-CUSHIONING

CYL	1 3 0 TYPE	A BORE	0 0 5 0 STROKE	A MATERIAL	P GASKETS
	A 200 mm front/rear cushioning cone - 200 mm ext.	32	1 to 2600 mm	A C45 chromed piston rod, aluminium piston for all sizes	N NBR gaskets
	B 150 mm front/rear cushioning cone - 150 mm ext.	40		Z Stainless steel piston rod and nut aluminium piston	P Polyurethane gaskets
	C 100 mm front/rear cushioning cone - 100 mm ext.	50			* V FKM/FPM gaskets
	D 150 mm front/rear cushioning cone - 200 mm ext.	63			
	E 100 mm front/rear cushioning cone - 200 mm ext.				
	F 50 mm front/rear cushioning cone - 100 mm ext.				
	G 100 mm front/rear cushioning cone - 150 mm ext.				
	H 200 mm front cushioning cone - 200 mm ext.				
	I 150 mm front cushioning cone - 150 mm ext.				
	L 100 mm front cushioning cone - 100 mm ext.				
	M 150 mm front cushioning cone - 200 mm ext.				
	N 100 mm front cushioning cone - 150 mm ext.				
	O 50 mm front cushioning cone - 100 mm ext.				
	Q 200 mm rear cushioning cone - 200 mm ext.				

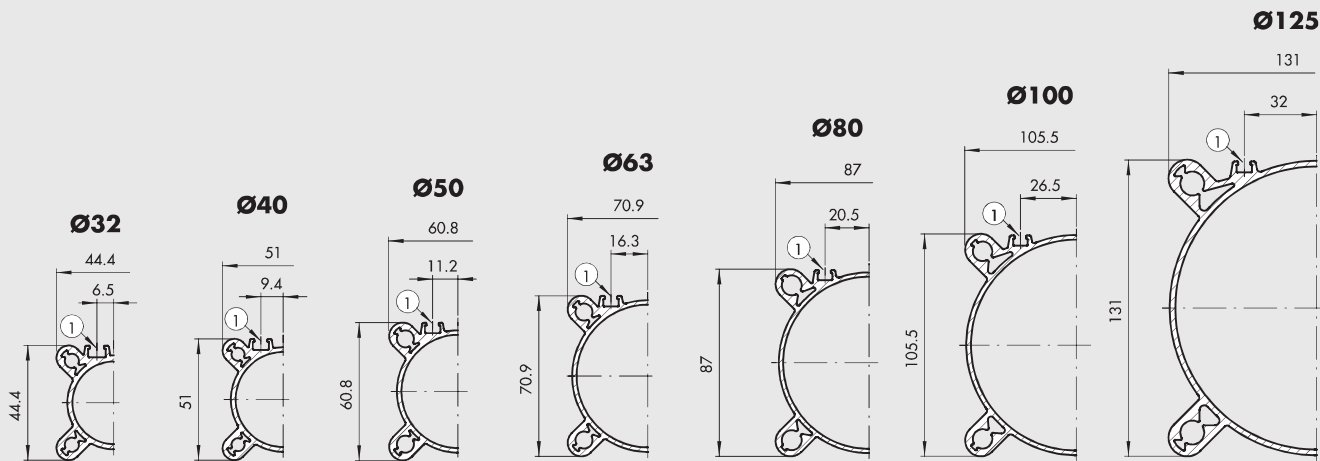
# ISO 15552 CYLINDER SERIES 3

ISO 15552 cylinders, featuring specially-shaped barrels designed to reduce weight to a minimum. Two T-slots on the same side as the threaded fittings can take retractable sensors. The other three sides of the barrel are smooth, with no slots, and hence easy to clean.



## BARREL CROSS SECTION

① SLOTS FOR RETRACTABLE SENSOR



## KEY TO CODES

CYL	1 2 1 TYPE	3 VERSION	3 2 BORE	0 0 5 0 STROKE	C MATERIAL	P GASKETS	E
●	121 Double-acting, cushioned	3 Series 3	32	For the maximum	A C45 chromed piston rod, aluminium piston:	N NBR gaskets	+ ▼ E Single-acting
	122 Through-rod	4 Series 3	40	suppliable	standard for all cylinders	P Polyurethane gaskets	extended rod
	124 Double-acting, non-cushioned	No stick slip	50	strokes,	with $\geq 1000$ mm-stroke	V FKM/FPM gaskets	or double-acting
	125 Opposed	5 Series 3	63	look at the	and for cylinder	● B Low temperature	with spring,
+	126 Single-acting	Non-magnetic	80	technical	with $\geq 80$ mm and over	C "Combi" piston rod gasket	extended
	127 Tandem		A1 = $\varnothing 100$	data	technopolymer piston:	▶ R "Hard PU" piston rod gasket	piston rod
▷	134 Version suitable for rod lock		A2 = $\varnothing 125$		standard for cylinders of	● □ M "Metal" piston rod gasket	+ ✕ R Double-acting
■ ▷	136 Version with rod lock				$\varnothing 32$ to $63$ mm with		with spring,
■ * ▷	137 Version suitable for rod lock + guide unit				<1000 mm strokes		retracted
					Z Stainless steel piston rod and nut aluminium piston		piston rod
					X Stainless steel piston rod and nut technopolymer piston		+ ★ 1 + Secure Lock with manual control
							+ ★ 2 + Secure Lock without manual control

● Only available for versions with aluminium piston (A or Z)

◆ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only.

The low-friction cylinder is typically used as a dandy or tensioning cylinder since it is a single-acting cylinder without a return spring. The configurations are shown below:

- 1) The best type is A as it involves less friction.
- 2) Type B should be used when the cylinder is working under normal conditions outside the pneumatic cushioning area. Cushioning is only for emergency use. It acts as a shock absorber in the case of malfunction.
- 3) Type C differs from type A due to the presence of a piston rod gasket that prevents dirt getting in when operating in dirty environments.
- 4) Type D differs from type B due to the presence of a piston rod gasket that prevents dirt getting in when operating in dirty environments.
- 5) Type E should be used when the pressurized chamber is the front one.
- 6) For type F, see point 2.

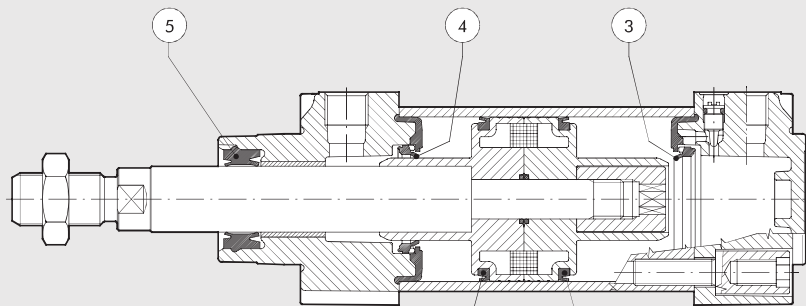


**NB. THE CYLINDER IS ALWAYS SINGLE-ACTING WITHOUT A RETURN SPRING.**

	TYPE	GASKETS
Rear chamber pressure	A	1
Rear chamber pressure and cushioning in case of impact	B	1+3
Rear chamber pressure and piston rod gasket	C	1+5
Rear chamber pressure, cushioning in case of impact and piston rod gasket	D	1+3+5
Front chamber pressure	E	2+5
Front chamber pressure and cushioning in case of impact	F	2+5+4

**COMPONENTS**

- ① Rear chamber piston gasket made of polyurethane, NBR or FKM/FPM
- ② Front chamber piston gasket made of polyurethane, NBR or FKM/FPM
- ③ Rear chamber cushioning gasket made of polyurethane, NBR or FKM/FPM
- ④ Front chamber cushioning gasket made of polyurethane, NBR or FKM/FPM
- ⑤ Piston rod gasket made of polyurethane, NBR or FKM/FPM





# ISO 15552 ULTRA-LOW FRICTIONS CYLINDER

A typical ultra-low friction cylinder is generally used as an oscillating or tensioning cylinder. It is single acting, in the sense that compressed air is normally fed into one of the two chambers only. An external force acts on the other side. Metal Work's ultra-low friction cylinder is designed as a double-acting one, which means the compressed air can be fed into the rear or either the front chamber. They are built to comply with ISO 15552 and are available with or without a magnet.

Supplied with a series 3 barrel.

A through-rod version is not available.

These cylinders are always non-cushioned.

The gaskets are made of NBR.

A full range of accessories is available.



TECHNICAL DATA		Ø32	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125
Max operating pressure	bar				10			
	MPa				1			
	psi				145			
Temperature range	NBR				-10 to +80			
	°C							
Design					Heads with Tap Tite screws			
Fluid					Unlubricated air			
Standard strokes	mm				1 to 1200			
Versions					Double-acting magnetic, Double-acting non-magnetic (always "No stick-slip" cylinder)			
Sensor magnet					Available magnetic and non-magnetic versions.			
Inrush pressure	bar	0.08	0.06	0.05	0.04	0.03	0.03	0.03
Forces generated at 6 bar thrust/retraction		See cylinder "General technical data" at the beginning of the chapter						
Weights		See cylinder "General technical data" at the beginning of the chapter						
Notes		There may be leakage between the two chambers in the presence of low pressures (up to 1 bar).						

## COMPONENTS

- ① PISTON ROD: C45 steel or stainless steel, thick chromed
- ② HEAD: die cast aluminium
- ③ PISTON ROD GASKET: NBR
- ④ GUIDE BUSHING: steel strip with bronze insert
- ⑤ BARREL: drawn anodized calibrated aluminium
- ⑥ PISTON GASKET: NBR
- ⑦ HALF-PISTON: aluminium alloy
- ⑧ MAGNET: plastoferrite
- ⑨ GUIDE RING: special technopolymer
- ⑩ BUFFER + Static O-rings: NBR
- ⑪ CUSHIONING NEEDLE: OT 58 with needle out movement safety system even when fully open
- ⑫ SCREWS: Tap Tite for assembly

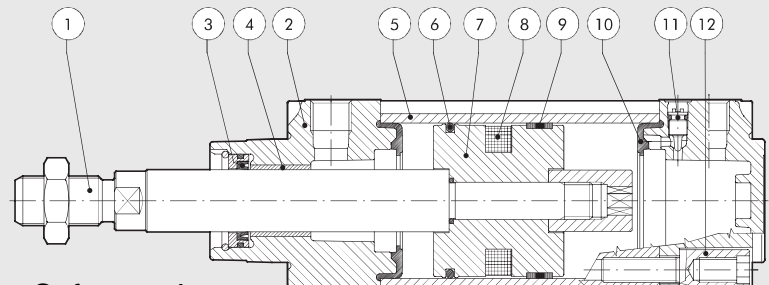
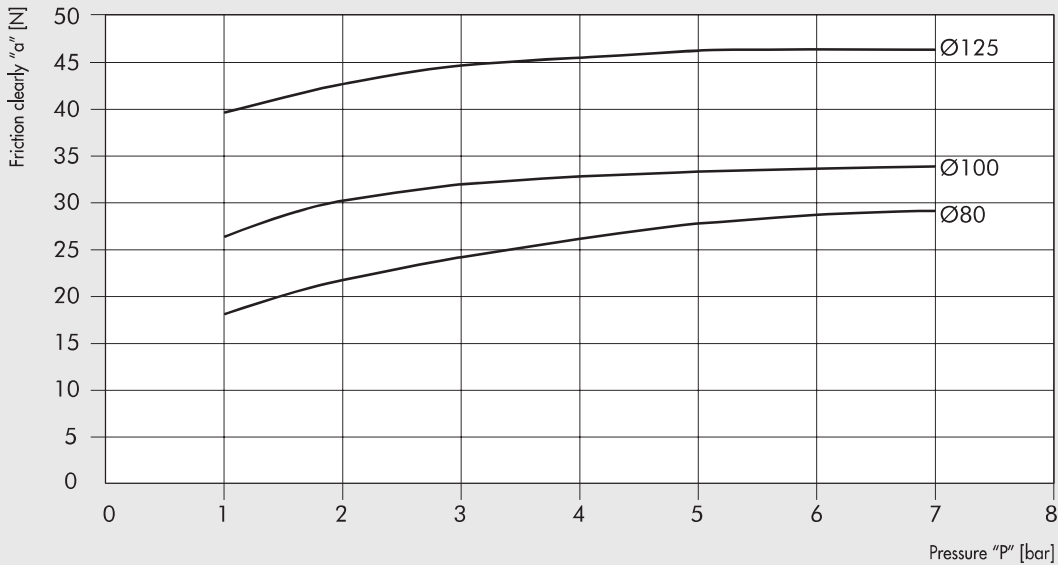
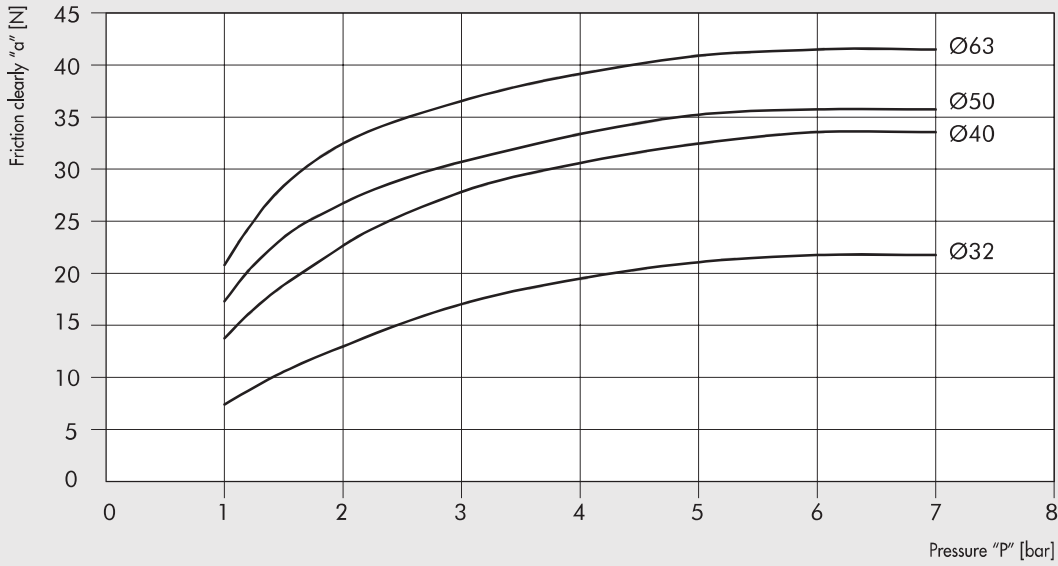


DIAGRAM OF THE CLEAN FRICTIONS



The clean friction values "a" in N have been obtained by inserting in the back chamber the pressure "P" in bars, and simultaneously by detecting the necessary force "F" in N to make the rod re-enter, applying the following formula:

$$a = F - [(P \times S) \times 9.81]$$

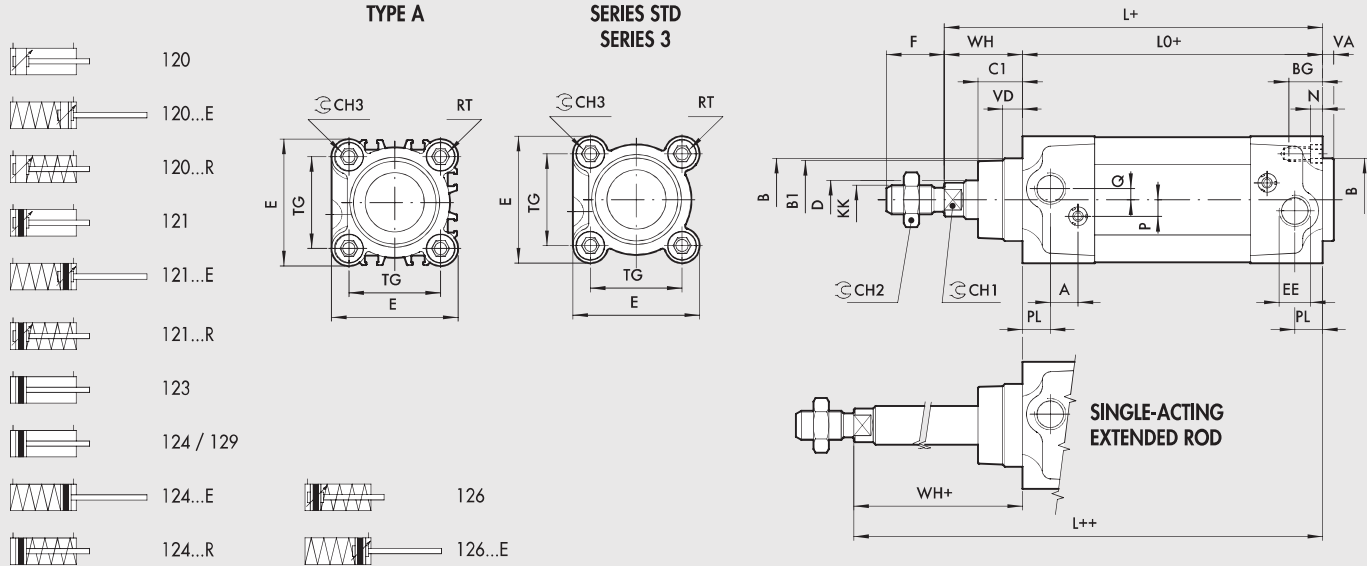
where "S" is the thrust section in cm<sup>2</sup>

KEY TO CODES

CYL	1 2 3 TYPE	3	3 2 BORE	0 1 0 0 STROKE	A MATERIAL	N GASKETS
	123 Ultra-low friction	3 Double-acting magnetic 5 Double-acting not magnetic	32 40 50 63 80	From 1 to 1200 mm	A C45 chromed piston rod, aluminium piston rod Z Stainless steel piston rod and nut aluminium piston	N NBR gaskets

# ISO 15552 CYLINDER DIMENSIONS

## DIMENSIONS SINGLE PISTON ROD VERSIONS



+ = ADD THE STROKE  
++ = ADD TWICE THE STROKE

VERSION 120... / 121... (double-acting cushioned)  
VERSION 123... / 124... / 129... (double-acting)

Ø	PL	VD	A	B	B <sub>1</sub>	WH	C <sub>1</sub>	CH <sub>1</sub>	CH <sub>2</sub>	KK	CH <sub>3</sub>	D	TG	VA	F	EE	RT	E	L	L <sub>0</sub>	BG	N	P	Q
32	10	6.5	10	30	28	26	16	10	17	M10x1.25	6	12	32.5	4	22	G1/8	M6	46	120	94	14.5	4.5	6	4
40	12	8	10	35	33	30	20	13	19	M12x1.25	6	16	38	4	24	G1/4	M6	54	135	105	14.5	4.5	6	4
50	14	13	10	40	38	37	25	17	24	M16x1.5	8	20	46.5	4	32	G1/4	M8	64.5	143	106	17.5	5.5	6	6
63	16	14	10	45	40	37	25	17	24	M16x1.5	8	20	56.5	4	32	G3/8	M8	75.5	158	121	17.5	5.5	6	6
80	18	12	12	45	43	46	33	22	30	M20x1.5	10	25	72	4	40	G3/8	M10	94	174	128	21.5	5.5	10	7
100	20	14	12	55	49	51	38	22	30	M20x1.5	10	25	89	4	40	G1/2	M10	111	189	138	21.5	5.5	10	7
125	25	20	10	60	54	65	45	27	41	M27x2	12	32	110	6	54	G1/2	M12	135	225	160	25.5	6.5	12	8

VERSION 126... (single-acting cushioned retracted piston rod)  
VERSION 126...E (single-acting cushioned extended piston rod)

Stroke	L <sub>0</sub>								L							
	Ø 32		Ø 40		Ø 50		Ø 63		Ø 32		Ø 40		Ø 50		Ø 63	
0 - 25	94 •	94 •	105 •	105 •	106 •	106 •	121 •	121 •	120 •	120 •	135 •	135 •	143 •	143 •	158 •	158 •
26 - 50	94 •	115	105 •	129.5	106 •	130.5	121 •	145.5	120 •	141	135 •	159.5	143 •	167.5	158 •	182.5
51 - 75	115	136	129.5	154	130.5	155	145.5	170	141	162	159.5	184	167.5	192	182.5	207
76 - 100	136	157	154	178.5	155	179.5	170	194.5	162	183	184	208.5	192	216.5	207	231.5
101 - 125	157	178	178.5	203	179.5	204	194.5	219	183	204	208.5	233	216.5	241	231.5	256
126 - 150	178	199	203	227.5	204	228.5	219	243.5	204	225	233	257.5	241	265.5	256	280.5
151 - 175	199	220	227.5	252	228.5	253	243.5	268	225	246	257.5	282	265.5	290	280.5	305
176 - 200	220	241	252	276.5	253	277.5	268	292.5	246	267	282	306.5	290	314.5	305	329.5
201 - 225	241	262	276.5	301	277.5	302	292.5	317	267	288	306.5	331	314.5	339	329.5	354
226 - 250	262	283	301	325.5	302	326.5	317	341.5	288	309	331	355.5	339	363.5	354	378.5

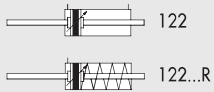
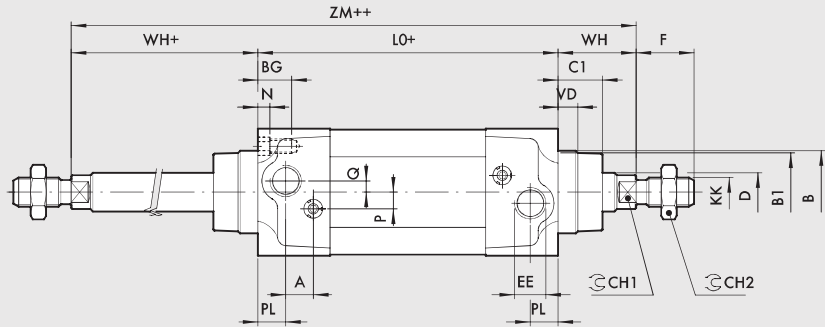
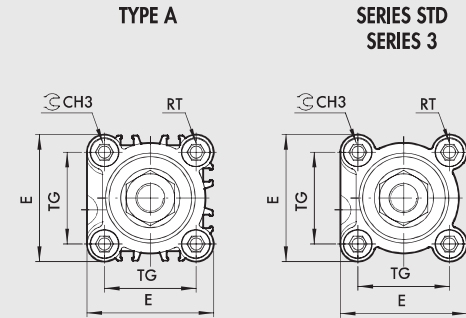
\* Dimensions according to ISO 15552

VERSION 12...R (double-acting with spring, retracted piston rod)  
VERSION 12...E (double-acting with spring, extended piston rod)

Stroke	L <sub>0</sub>								L							
	Ø 32		Ø 40		Ø 50		Ø 63		Ø 32		Ø 40		Ø 50		Ø 63	
0 - 25	104	104	117	117	106 •	106 •	121 •	121 •	130	130	147	147	143 •	143 •	158 •	158 •
26 - 50	104	125	117	141.5	106 •	130.5	121 •	145.5	130	151	147	171.5	143 •	167.5	158 •	182.5
51 - 75	125	146	141.5	166	130.5	155	145.5	170	151	172	171.5	196	167.5	192	182.5	207
76 - 100	146	167	166	190.5	155	179.5	170	194.5	172	193	196	220.5	192	216.5	207	231.5
101 - 125	167	188	190.5	215	179.5	204	194.5	219	193	214	220.5	245	216.5	241	231.5	256

**DIMENSIONS THROUGH-ROD VERSIONS**

+ = ADD THE STROKE  
++ = ADD TWICE THE STROKE



ACTUATORS

ISO 15552 CYLINDER – DIMENSIONS

**VERSION 122... (double-acting cushioned)**

Ø	PL	VD	A	B	B <sub>1</sub>	WH	C <sub>1</sub>	CH <sub>1</sub>	CH <sub>2</sub>	CH <sub>3</sub>	KK	D	TG	VA	F	EE	RT	E	L	L <sub>0</sub>	ZM	BG	N	P	Q
32	10	6.5	10	30	28	26	16	10	17	6	M10x1.25	12	32.5	4	22	G1/8	M6	46	120	94	146	14.5	4.5	6	4
40	12	8	10	35	33	30	20	13	19	6	M12x1.25	16	38	4	24	G1/4	M6	54	135	105	165	14.5	4.5	6	4
50	14	13	10	40	38	37	25	17	24	8	M16x1.5	20	46.5	4	32	G1/4	M8	64.5	143	106	180	17.5	5.5	6	6
63	16	14	10	45	40	37	25	17	24	8	M16x1.5	20	56.5	4	32	G3/8	M8	75.5	158	121	195	17.5	5.5	6	6
80	18	12	12	45	43	46	33	22	30	10	M20x1.5	25	72	4	40	G3/8	M10	94	174	128	220	21.5	5.5	10	7
100	20	14	12	55	49	51	38	22	30	10	M20x1.5	25	89	4	40	G1/2	M10	111	189	138	240	21.5	5.5	10	7
125	25	20	10	60	54	65	45	27	41	12	M27x2	32	110	6	54	G1/2	M12	135	225	160	290	25.5	6.5	12	8

**VERSION 122...R (double-acting cushioned with spring, retracted piston rod)**

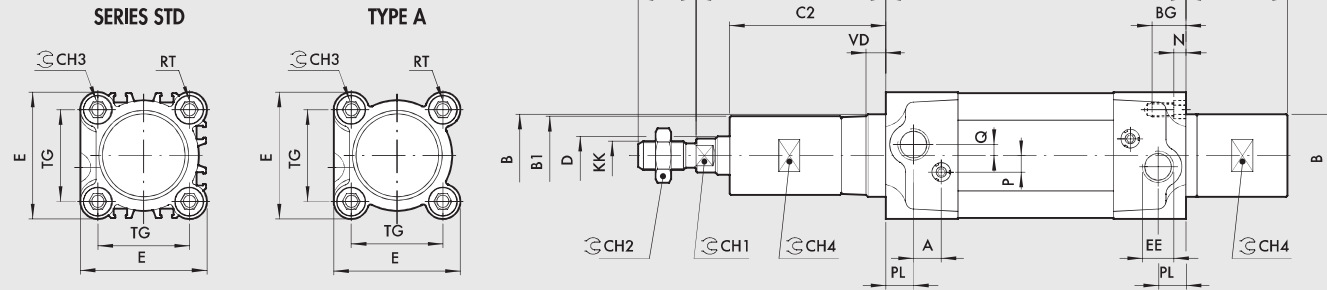
Stroke	LO				ZM			
	Ø 32	Ø 40	Ø 50	Ø 63	Ø 32	Ø 40	Ø 50	Ø 63
0 - 25	104	117	106 •	121 •	156	177	180	195
26 - 50	104	117	106 •	121 •	156	177	180	195
51 - 75	125	141.5	130.5	145.5	177	201.5	204.5	219.5
76 - 100	146	166	155	170	198	226	229	244
101 - 125	167	190.5	179.5	194.5	219	250.5	253.5	268.5
126 - 150	188	215	204	219	240	275	278	293
151 - 175	209	239.5	228.5	243.5	261	299.5	302.5	317.5
176 - 200	230	264	253	268	282	324	327	342
201 - 225	251	288.5	277.5	292.5	303	348.5	351.5	366.5
226 - 250	272	313	302	317	324	373	376	391

• Dimensions according to ISO 15552

**NOTES**

## DIMENSIONS LONG-CUSHIONING VERSION

+ = ADD THE STROKE



Ø	PL	VD	A	B	B <sub>1</sub>	CH <sub>1</sub>	CH <sub>2</sub>	CH <sub>3</sub>	CH <sub>4</sub>	KK	D	TG	F	EE	RT	E	L <sub>0</sub>	BG	N	P	Q
32	10	6.5	10	30	29	10	17	6	27	M10x1.25	12	32.5	22	G1/8	M6	46	94	14.5	4.5	6	4
40	12	8	10	35	34	13	19	6	30	M12x1.25	16	38	24	G1/4	M6	54	105	14.5	4.5	6	4
50	14	13	10	40	38	17	24	8	35	M16x1.5	20	46.5	32	G1/4	M8	64.5	106	17.5	5.5	6	6
63	16	14	10	45	38	17	24	8	35	M16x1.5	20	56.5	32	G3/8	M8	75.5	121	17.5	5.5	6	6

### 100 mm LONG-CUSHIONING

Ø	WH <sub>1</sub>	C <sub>2</sub>	VA <sub>1</sub>	L <sub>1</sub>
32	106	96	79	200
40	107	97	76.5	212
50	113.5	101.5	76.5	219.5
63	113.5	101.5	76.5	234.5

### 150 mm LONG-CUSHIONING

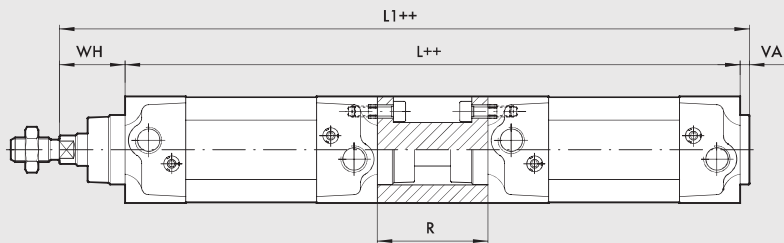
Ø	WH <sub>1</sub>	C <sub>2</sub>	VA <sub>1</sub>	L <sub>1</sub>
32	156	146	129	250
40	157	147	121.5	262
50	162.5	150.5	119.5	268.5
63	162.5	150.5	123.5	283.5

### 200 mm LONG-CUSHIONING

Ø	WH <sub>1</sub>	C <sub>2</sub>	VA <sub>1</sub>	L <sub>1</sub>
32	206	196	179	300
40	207	197	176.5	312
50	213.5	201.5	176.5	319.5
63	213.5	201.5	176.5	334.5

## DIMENSIONS TANDEM VERSION

++ = ADD TWICE THE STROKE



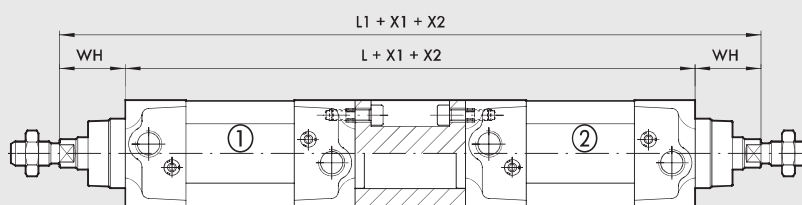
Ø	WH	VA	R	L	L <sub>1</sub>
32	26	4	55	243	273
40	30	4	55	265	299
50	37	4	68	280	321
63	37	4	68	310	351
80	46	4	92	348	398
100	51	4	92	368	423
125	65	6	120	440	511

Refer to standard cylinders for other values.

## DIMENSIONS OPPOSED VERSION

X1 = STROKE CYLINDER 1

X2 = STROKE CYLINDER 2



Ø	WH	R	L	L <sub>1</sub>
32	26	55	243	295
40	30	55	265	325
50	37	68	280	354
63	37	68	310	384
80	46	92	348	440
100	51	92	368	470
125	65	120	440	570

Refer to standard cylinders for other values.

This version of cylinder is used to keep the parts fixed to the piston rod at an angle and to apply torques within the specified limits. The piston rod of the Two-Flat has two opposing longitudinal surfaces; it is made of stainless steel. The front cylinder head includes a sintered bronze bush that matches the profile of the piston rod and prevents it from rotating on its own axis. A special polyurethane gasket ensures pneumatic seal and prevents the accumulation of dirt. This technical solution is more reliable and gives a better pneumatic seal than with square or hexagonal piston rods. Supplied in series STD, with a smooth barrel, and type A or series 3, with a barrel with slots for retractable sensors. They are available in several versions and with a wide range of accessories:

- with or without magnet
- double acting, single piston rod
- double acting, through rod; one piston rod is Two-Flat, the other cylindrical
- fixing accessories.



ACTUATORS

ISO 15552 TWO-FLAT CYLINDER

TECHNICAL DATA		Ø32	Ø40	Ø50	Ø63
Max operating pressure	bar			10	
	MPa			1	
	psi			145	
Temperature range	POLYURETHANE °C			-25 to +80	
Design				Heads with Tap Tite screws	
Fluid				Unlubricated air. Lubrication, if used, must be continuous	
Maximum stroke	mm	300	400	500	
Versions				Double-acting cushioned, Through-rod cushioned, No stick-slip	
Sensor magnet				Available magnetic and non-magnetic versions.	
Inrush pressure	bar	0.4	0.4	0.3	0.3
Max torque on piston rod	Nm	0.2	0.4	1	1
Maximum rotation on the rod	degrees	1° 30'	1° 30'	1°	1°
Forces generated at 6 bar thrust/retraction				See cylinder "General technical data" at the beginning of the chapter	
Weights				See cylinder "General technical data" at the beginning of the chapter	
Notes				For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air.	

**KEY TO CODES FOR ISO 15552 TWO-FLAT STD CYLINDERS**

CYL	1 2 1 TYPE	0	3 2 BORE	0 0 5 0 STROKE	F MATERIAL	P GASKETS
	120 Double-acting, cushioned, non-magnetic	0 Diameter S Non-magnetic ▲ G No stick-slip	32 40 50 63	+ Ø 32 stroke 1 to 300 mm + Ø 40 stroke 1 to 400 mm + Ø 50 to 63 stroke 1 to 500 mm	F "Two-Flat" piston rod AISI 303, stainless steel nut, technopolymer piston	P Polyurethane gaskets
	121 Double-acting, cushioned					
●	122 Through-rod					

● Supplied with aluminium piston

+ Maximum recommended strokes. Higher values can create operating problems

▲ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only

**KEY TO CODES FOR ISO 15552 TWO-FLAT TYPE A CYLINDERS**

CYL	1 2 1 TYPE	A	3 2 BORE	0 0 5 0 STROKE	F MATERIAL	P GASKETS
	121 Double-acting, cushioned	A Standard ▲ B No stick-slip	32 40	+ Ø 32 stroke 1 to 300 mm + Ø 40 stroke 1 to 400 mm	F "Two-Flat" piston rod AISI 303, stainless steel	P Polyurethane gaskets

## KEY TO CODES FOR ISO 15552 TWO-FLAT SERIES 3 CYLINDERS

CYL	1 2 1 TYPE	3	3 2 BORE	0 0 5 0 STROKE	F MATERIAL	P GASKETS
	121 Double-acting cushioned	3 Series 3	32	+ Ø 32 stroke 1 to 300 mm	F "Two-Flat" piston rod	P Polyurethane gaskets
●	122 Through-rod	▲ 4 Series 3 No stick-slip	40	+ Ø 40 stroke 1 to 400 mm	AISI 303, stainless steel	
		5 Series 3 Non-magnetic	50	+ Ø 50 to 63 stroke 1 to 500 mm	nut, technopolymer	
			63		piston	

● Supplied with aluminium piston

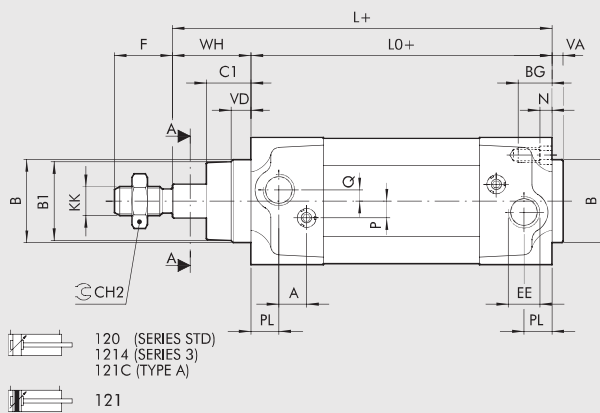
+ Maximum recommended strokes. Higher values can create operating problems

▲ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only

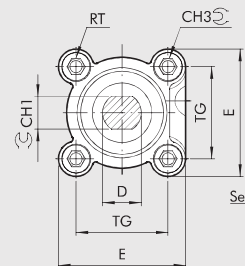
## DIMENSIONS

### STANDARD VERSION

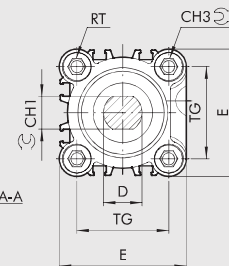
+ = ADD THE STROKE



SERIES STD  
SERIES 3



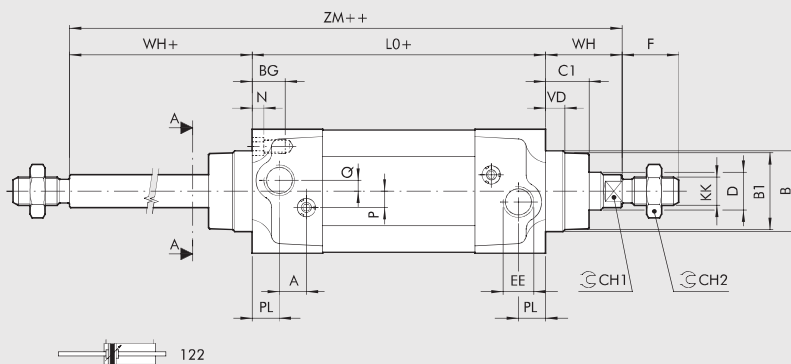
TYPE A



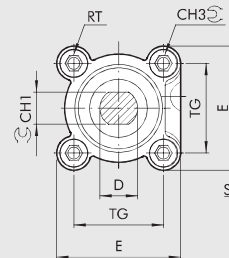
### THROUGH-ROD VERSION

+ = ADD THE STROKE

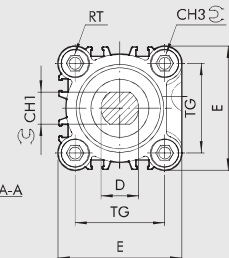
++ = ADD TWICE THE STROKE



SERIES STD  
SERIES 3



TYPE A



Ø PL VD A B B<sub>1</sub> WH C<sub>1</sub> CH<sub>1</sub> CH<sub>2</sub> CH<sub>3</sub> KK D TG VA F EE RT E L L<sub>0</sub> ZM BG N P Q

The cylinders in this series are designed with a unit that mechanically locks the piston rod at the end of stroke.  
When extended, the piston rod can be locked at the front head; when retracted, it is locked either at the rear head or in both positions.  
With the cylinder pneumatically powered, the locking unit releases automatically, so no additional piloting is required.  
The locking unit can be released manually by inserting a screw into a thread.  
This cylinder complies with ISO 15552, except for the length, which is greater than the standard.



TECHNICAL DATA		Ø32	Ø40	Ø50	Ø63	Ø80	Ø100
Max operating pressure	bar	10					
	MPa	1					
	psi	145					
Temperature range	POLYURETHANE °C	-25 to +80					
	NBR °C	-10 to +80					
	FKM/FPM °C	-10 to +150					
	Low Temperature °C	-40 to +80					
Design	Heads with Tap Tite screws						
Fluid	Unlubricated air. Lubrication, if used, must be continuous						
Standard stroke †	mm	30 to 2800				35 to 2600	
Versions	Double-acting cushioned, Through-rod cushioned, No stick-slip.						
Sensor magnet	YES						
Static retention force	N	500	500	2000	2000	5000	5000
Maximum axial clearance in the lock position	mm	1.5	1.5	1.5	1.5	1.5	1.5
Minimum release pressure	bar	≥ 2.5	≥ 2.5	≥ 2.5	≥ 2.5	≥ 2	≥ 2
Maximum locking pressure	bar	≤ 0.5					
Forces generated at 6 bar thrust/retraction	See cylinder "General technical data" at the beginning of the chapter						
Weights							
Only one stop, with piston rod extended or retracted, stroke = 0	g	573	860	1367	1793	3515	5197
Stops either with piston rod extended or retracted, stroke = 0	g	713	1060	1647	2143	4215	6497
Every mm of stroke, cylinder with piston rod cylinder	g	2.20	2.15	4.57	5.03	7.49	8.79
Every mm of stroke, through-rod cylinder	g	3.09	4.73	7.04	7.44	10.16	12.33
Notes	For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air.						
† Maximum recommended strokes. Higher values can create operating problems							

**FUNCTIONING DIAGRAM**

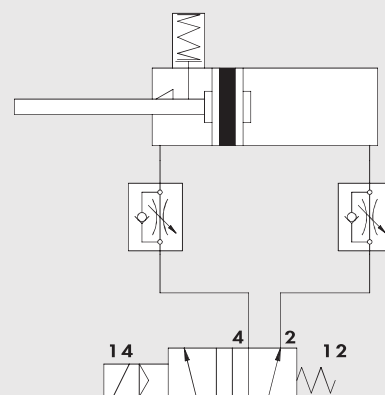
**LOCKED VERSION WITH EXTENDED PISTON ROD**

When the piston rod extends at the end of stroke, the spring-actuated locking piston enters the slot of the coupling bushing.  
When the piston rod retracts, the pressure inside the front chamber overcomes the force of the spring and causes the locking piston to move away; the piston rod can now move freely and retracts.

**N.B.:** The rear chamber must be pressurized before activating piston rod retraction, otherwise the locking unit will not be disengaged. When the control valve is switched over, by the time the rear chamber relieves, sufficient pressure is created in the front chamber to release the locking unit before the piston rod starts retracting.

The version with locking with piston rod retracted works in the same way.

**Precautions:** Do not use 3-position solenoid valves. Use MRF flow



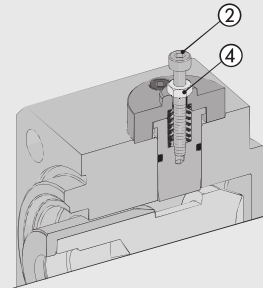
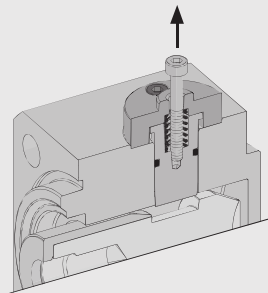
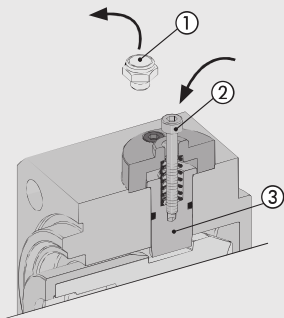


## MANUAL RELEASE (WITH NO PRESSURE)

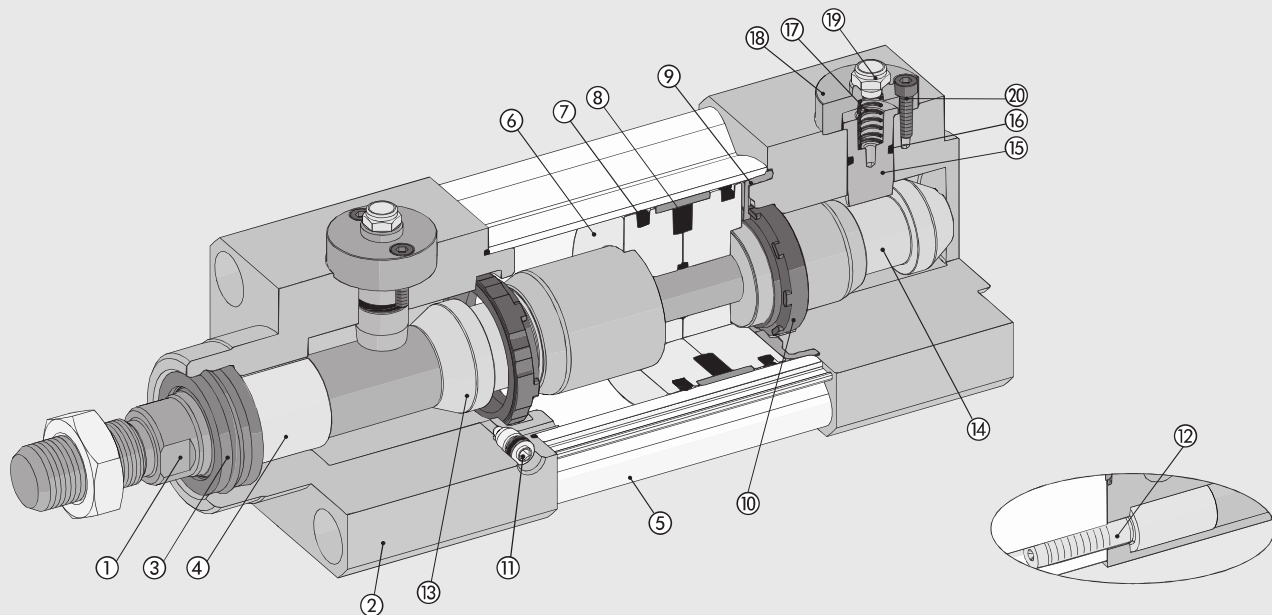
Remove the silencer ①. Tighten one of the screws ② into the locking piston ③.

Pull it upwards to release the locking piston.

You can disengage the locking unit permanently by fitting a nut ④ to the screw ② and tightening it until the piston is disengaged.



## COMPONENTS



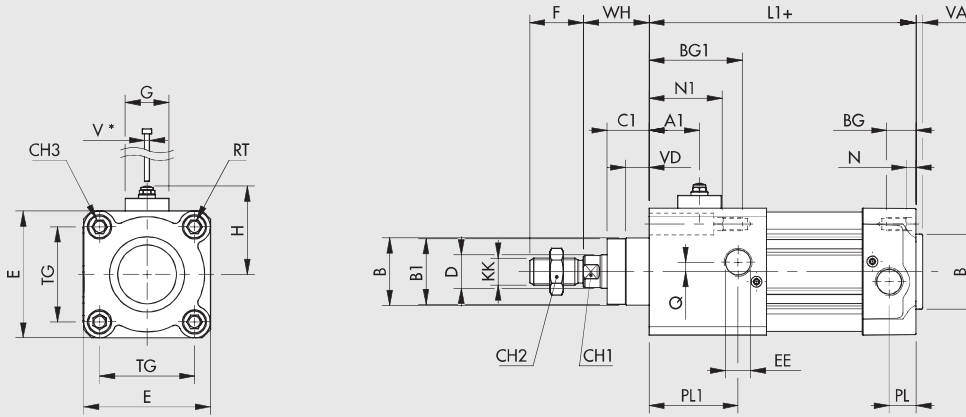
- ① PISTON ROD: C45 steel or stainless steel, thick chromed
- ② HEAD: aluminium
- ③ PISTON ROD GASKET: polyurethane, NBR or FKM/FPM
- ④ GUIDE BUSHING: steel strip with bronze and PTFE insert
- ⑤ BARREL: drawn anodized calibrated aluminium
- ⑥ SEMI-PISTON: made of self-lubricating technopolymer with built-in cushioning olives or in aluminium

- ⑪ CUSHIONING NEEDLE: OT 58 with needle out movement safety system even when fully open
- ⑫ SCREWS: Tap Tite for assembly
- ⑬ FRONT COUPLING BUSHING: hardened alloy steel
- ⑭ REAR COUPLING BUSHING: hardened alloy steel
- ⑮ LOCKING PISTON: tempered and chromed alloy steel
- ⑯ GASKET: NBR or FKM/FPM

**DIMENSIONS OF SINGLE PISTON ROD VERSIONS**

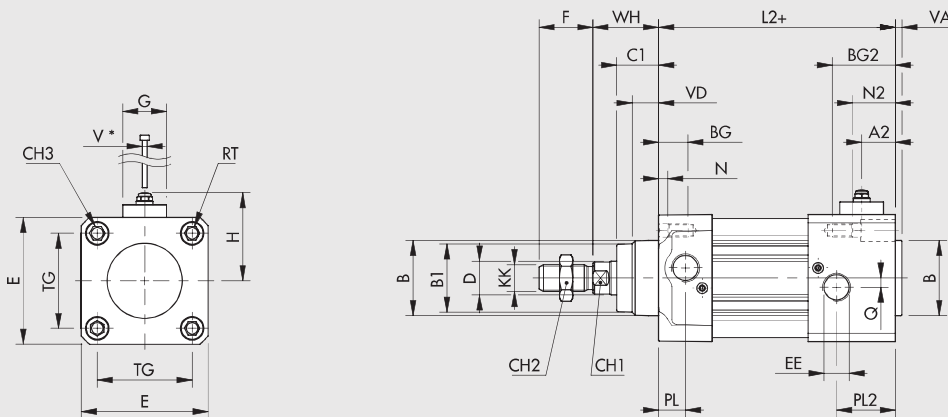
**LOCKING WITH EXTENDED PISTON ROD**

\* = THREADING FOR MANUAL RELEASE SCREW  
+ = ADD STROKE



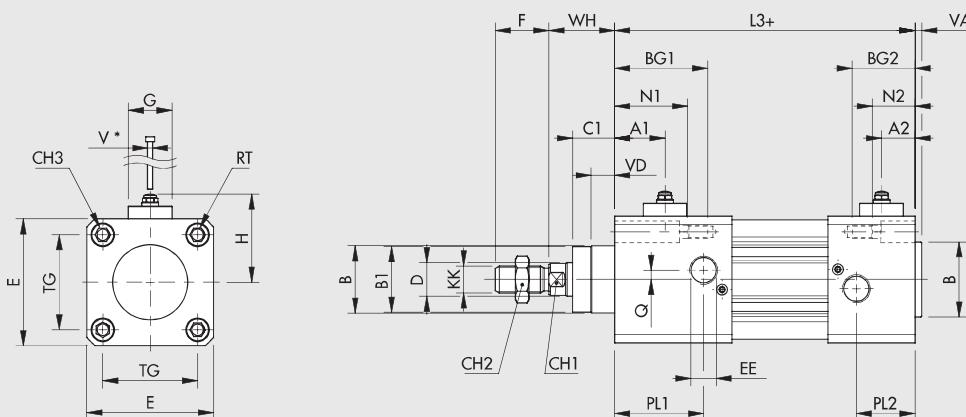
	121...F1
	1215...F1
	124...F1
	1245...F1

**LOCKING WITH RETRACTED PISTON ROD**



	121...F2
	1215...F2
	124...F2
	1245...F2

**LOCKING WITH EXTENDED AND RETRACTED PISTON ROD**



	121...F3
	1215...F3
	124...F3
	1245...F3

Ø	A1	A2	B	B1	BG	BG1	BG2	C1	CH1	CH2	CH3	D	E	EE	F	G	H	KK	L1	L2	L3	N	N1	N2	PL	PL1	PL2	Q	RT	TG	V*	VA	VD	WH
---	----	----	---	----	----	-----	-----	----	-----	-----	-----	---	---	----	---	---	---	----	----	----	----	---	----	----	----	-----	-----	---	----	----	----	----	----	----

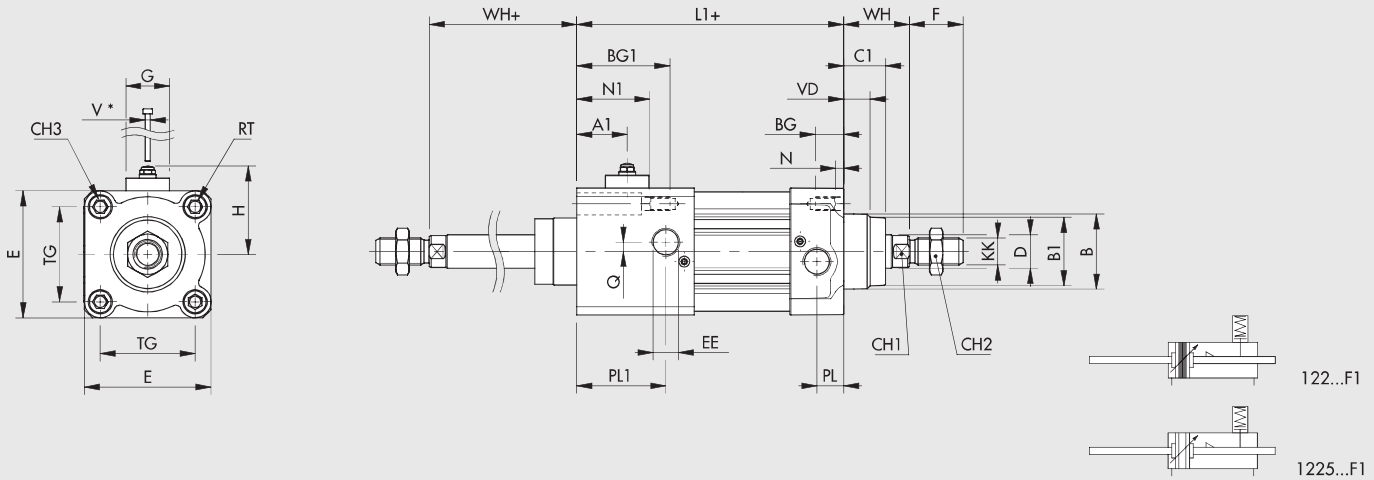
**ACTUATORS**

**ISO 15552 CYLINDER WITH END-OF-STROKE STOP**

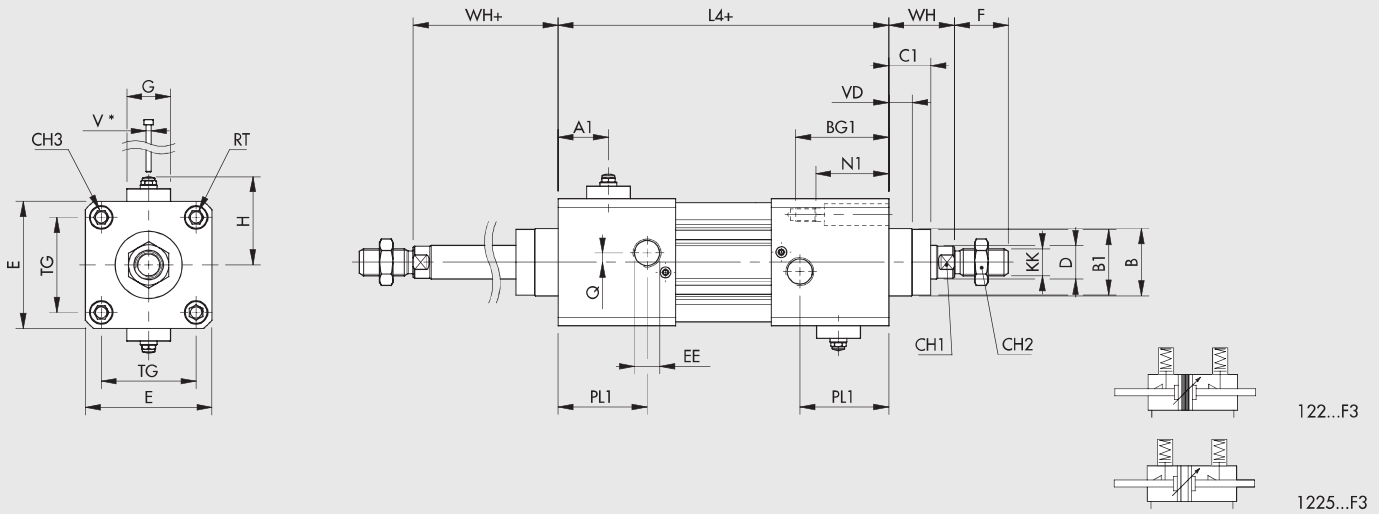
## DIMENSIONS OF THROUGH-ROD VERSIONS

### LOCKING ON ONE SIDE ONLY

\* = THREADING FOR MANUAL RELEASE SCREW  
+ = ADD STROKE



### LOCKING WITH EXTENDED AND RETRACTED PISTON ROD



Ø	A1	B	B1	BG	BG1	C1	CH1	CH2	CH3	D	E	EE	F	G	H	KK	L1	L4	N	N1	PL	PL1	Q	RT	TG	V*	VD	WH
32	24	30	28	14.5	25.5	16	10	17	6	12	46	1/8	22	24	40	M10x1.25	105	116	4.5	15.5	10	21	4	M6	32.5	M3	6.5	26
40	28	35	33	14.5	39.5	20	13	19	6	16	54	1/4	24	24	45	M12x1.25	130	155	4.5	29.5	12	35	4	M6	38	M3	8	30
50	28	40	38	17.5	44.5	25	17	24	8	20	64.5	1/4	32	26	48	M16x1.5	133	160	5.5	32.5	14	41	6	M8	46.5	M3	13	37
63	28	45	40	17.5	43.5	25	17	24	8	20	75.5	3/8	32	26	55	M16x1.5	147	173	5.5	31.5	16	41	6	M8	56.5	M3	14	37
80	30	45	43	21.5	50.5	33	22	30	10	25	94	3/8	40	29	63	M20x1.5	157	186	5.5	34.5	18	47	7	M10	72	M3	12	46
100	33	55	49	21.5	58.5	38	22	30	10	25	111	1/2	40	29	72	M20x1.5	175	212	5.5	42.5	20	50	7	M10	89	M3	14	51

KEY TO CODES

CYL	1 2 1 TYPE	3	3 2 BORE	0 0 5 0 STROKE	C MATERIAL	P GASKETS	F1 END-OF-STROKE STOP
	<ul style="list-style-type: none"> <li>121 Double-acting cushioned</li> <li>● 122 Through-rod</li> <li>124 Double-acting, non-cushioned</li> </ul>	<ul style="list-style-type: none"> <li>3 Series 3</li> <li>◆ 4 Series 3 No stick-slip</li> <li>5 Series 3 Non-magnetic</li> </ul>	<ul style="list-style-type: none"> <li>▲ 32 = Ø 32</li> <li>40 = Ø 40</li> <li>50 = Ø 50</li> <li>63 = Ø 63</li> <li>80 = Ø 80</li> <li>A1 = Ø 100</li> </ul>	For the maximum applicable strokes, look at the technical data	<ul style="list-style-type: none"> <li>A C45 chromed piston rod, aluminium piston: standard for all cylinders with <math>\geq 1000</math> mm-stroke cylinders and for cylinder with <math>\geq 80</math> mm and over</li> <li>C C45 chromed piston rod, technopolymer piston: standard for cylinders of <math>\geq 32</math> to 63 mm with <math>&lt; 1000</math> mm strokes</li> <li>Z Stainless steel piston rod and nut aluminium piston</li> <li>X Stainless steel piston rod and nut technopolymer piston</li> </ul>	<ul style="list-style-type: none"> <li>N NBR gaskets</li> <li>P Polyurethane gaskets</li> <li>V FKM/FPM gaskets</li> <li>● B Low temperature</li> </ul>	<ul style="list-style-type: none"> <li>● F1 Extended piston rod</li> <li>F2 Retracting piston rod</li> <li>● F3 Retracting piston rod and extended piston rod</li> </ul>

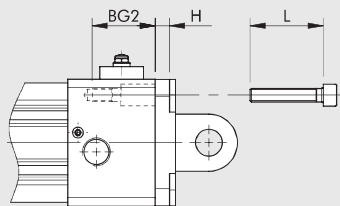
- Only available for versions with aluminium piston (A or Z)
- ◆ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only

- ▲ Regarding the Ø32 cylinders, the heads with end-of-stroke stop hasn't the pneumatic cushioning

ACCESSORIES

All the accessories of ISO 15552 cylinders (page A1.46) can be used, **except for the guide units (GDS, GDH, GDM)** since the protrusion of the locking piston interferes with the guide unit.

**NB:** The screws used to secure the accessory to the heads fitted with a stop must be longer than those supplied together with the accessories. The screw length is calculated by summing up the catalogue-specified thickness of the accessory flange and the BG1 dimension, rounding down to -3 mm.



$$L = BG2 + H - (0 - 3) \text{ mm}$$

NOTES

ACTUATORS

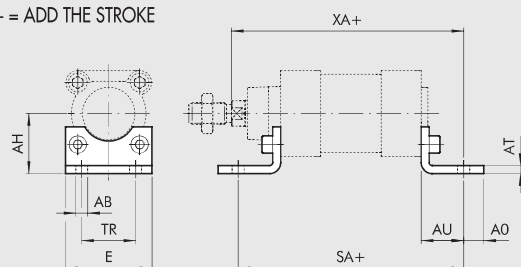
ISO 15552 CYLINDER WITH END-OF-STROKE STOP

# ACCESSORIES FOR ISO 15552 STD, TYPE A, SERIES 3, TWO-FLAT:

## FIXINGS

### FOOT - MODEL A

+ = ADD THE STROKE

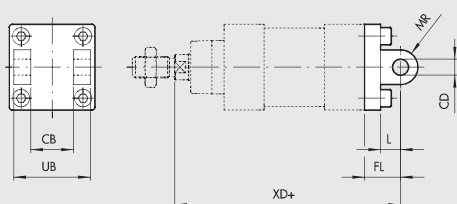


Code	∅	∅ AB	AH	AO	AT	AU	TR	E	XA	SA	Weight [g]
W0950322001	32	7	32	11	4	24	32	45	144	142	76
W0950402001	40	9	36	15	4	28	36	52	163	161	100
W0950502001	50	9	45	15	5	32	45	65	175	170	162
W0950632001	63	9	50	15	5	32	50	75	190	185	266
W0950802001	80	12	63	20	6	41	63	95	215	210	456
W0951002001	100	14	71	25	6	41	75	115	230	220	572
W0951252001	125	16	90	15	8	45	90	140	270	250	1130

Note: Individually packed with 2 screws

### FEMALE HINGE - MODEL B

+ = ADD THE STROKE

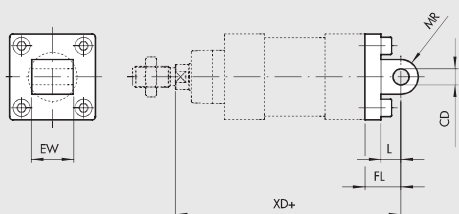


Code	∅	UB	CB <sup>H14</sup>	FL	CD <sup>H9</sup>	XD	MR	L	Weight [g]
W0950322003	32	45	26	22	10	142	10	12	116
W0950402003	40	52	28	25	12	160	12	15	160
W0950502003	50	60	32	27	12	170	12	15	252
W0950632003	63	70	40	32	16	190	16	20	394
W0950802003	80	90	50	36	16	210	16	20	670
W0951002003	100	110	60	41	20	230	20	25	1085
W0951252003	125	130	70	50	25	275	25	30	2000

Note: Supplied with 4 screws, 4 washers, 2 snap-rings, 1 pin

### MALE HINGE - MODEL BA

+ = ADD THE STROKE

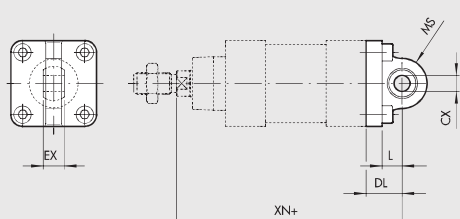


Code	∅	EW	FL	MR	CD <sup>H9</sup>	L	XD	Weight [g]
W0950322004	32	26	22	10	10	13	142	94
W0950402004	40	28	25	12	12	16	160	124
W0950502004	50	32	27	12	12	16	170	220
W0950632004	63	40	32	16	16	22	190	316
W0950802004	80	50	36	16	16	22	210	578
W0951002004	100	60	41	20	20	27	230	850
W0951252004	125	70	50	25	25	30	275	1590

Note: Supplied with 4 screws

### ARTICULATED MALE HINGE - MODEL BAS

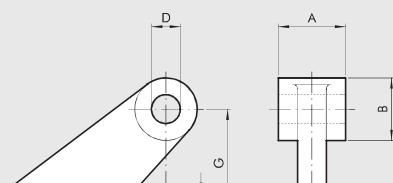
+ = ADD THE STROKE



Code	∅	DL	MS	L	XN	CX <sup>H9</sup>	EX	Weight [g]
W0950322006	32	22	16	12	142	10	14	106
W0950402006	40	25	18	15	160	12	16	142
W0950502006	50	27	21	15	170	12	16	236
W0950632006	63	32	23	20	190	16	21	336
W0950802006	80	36	28	20	210	16	21	572
W0951002006	100	41	30	25	230	20	25	840
W0951252006	125	50	40	30	275	25	31	1520

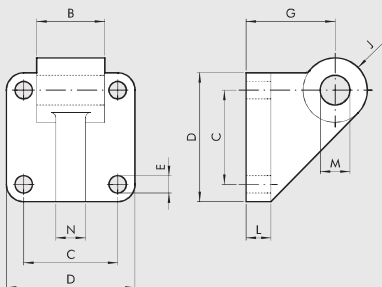
Note: Supplied with 4 screws

### CETOP HINGE FOR MODEL B - MODEL GL



Code	∅	A	B	C	D	E	F	G	H	I	L	M	N	Weight [g]
W0950322008	32	26	19	7	10	25	20	32	37	41	18	8	10	96
W0950402008	40	28	26	9	12	32	32	45	54	52	25	10	12	216
W0950502008	50	32	26	9	12	32	32	45	54	52	25	10	12	212
W0950632008	63	40	33	11	16	40	50	63	75	63	32	12	15	440
W0950802008	80	50	33	11	16	40	50	63	75	63	32	12	15	464
W0951002008	100	60	44	14	20	50	70	90	103	80	40	16	22	985

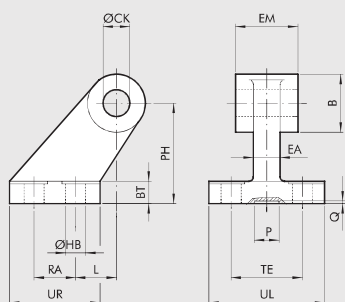
**COUNTER-HINGE FOR MODEL B - MODEL GS**



Code	Ø	B	C	D	E	G	J	L	M	N	Weight [g]
W0950322108	32	26	32.5	45	7	32	11	10	10	10	106
W0950402108	40	28	38	52	7	36	13	10	12	12	138
W0950502108	50	32	46.5	65	9	45	13	12	12	12	252
W0950632108	63	40	56.5	75	9	50	17	12	16	15	350
W0950802108	80	50	72	95	11	63	17	16	16	15	655
W0951002108	100	60	89	115	11	73	21	16	20	22	980

Note: Supplied with 4 screws, 4 washers

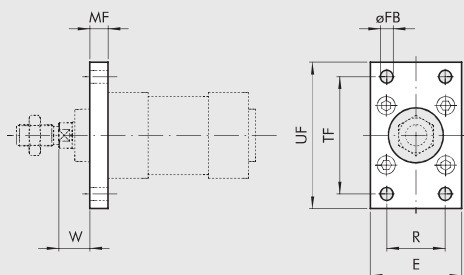
**ISO 15552 COUNTER-HINGE FOR MODEL B - MODEL AB7**



Code	Ø	EM	B	ØHB	ØCK	TE	RA	PH	UR	UL	L	BT	EA	P	Q	Weight [g]
W0950322017	32	26	20	6.6	10	38	18	32	31	51	3	8	10	21	3	60
W0950402017	40	28	22	6.6	12	41	22	36	35	54	2	10	15*	21	3	85
W0950502017	50	32	26	9	12	50	30	45	45	65	3	12	16	21	3	162
W0950632017	63	40	30	9	16	52	35	50	50	67	2	14*	16	21	3	191
W0950802017	80	50	30	11	16	66	40	63	60	86	7	14	20	21	3	332
W0951002017	100	60	38	11	20	76	50	71	70	96	5	17*	20	11	3	522
W0951252017	125	70	45	14	25	94	60	90	90	124	10	20	30	21	3	960

\* Dimensions not to ISO 15552

**FRONT FLANGE - MODEL C**

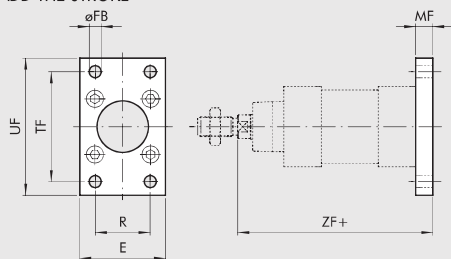


Code	Ø	TF	UF	E	MF	R	øFB	W	Weight [g]
W0950322002	32	64	80	50	10	32	7	16	246
W0950402002	40	72	90	55	10	36	9	20	290
W0950502002	50	90	110	65	12	45	9	25	522
W0950632002	63	100	120	75	12	50	9	25	670
W0950802002	80	126	150	95	15	63	12	30	1420
W0951002002	100	150	178	115	15	75	14	35	2040
W0951252002	125	180	220	140	20	90	16	45	4300

Note: Supplied with 4 screws

**REAR FLANGE - MODEL C**

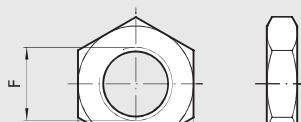
+ = ADD THE STROKE



Code	Ø	TF	UF	E	MF	R	øFB	ZF	Weight [g]
W0950322002	32	64	80	50	10	32	7	130	246
W0950402002	40	72	90	55	10	36	9	145	290
W0950502002	50	90	110	65	12	45	9	155	522
W0950632002	63	100	120	75	12	50	9	170	670
W0950802002	80	126	150	95	15	63	12	190	1420
W0951002002	100	150	178	115	15	75	14	205	2040
W0951252002	125	180	220	140	20	90	16	245	4300

Note: Supplied with 4 screws.

**ROD NUT - MODEL S**

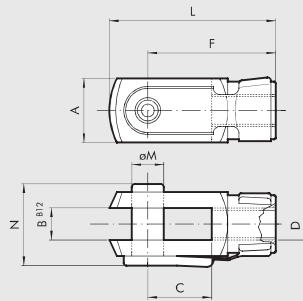


Code	Ø	F	H	CH	Weight [g]
0950322010	32	M10x1.25	6	17	6
0950402010	40	M12x1.25	7	19	12
0950502010	50/63	M16x1.5	8	24	20
0950802010	80/100	M20x1.5	9	30	32
0951252010	125	M27x2	12	41	74

ACTUATORS

ACCESSORIES FOR ISO 15552 CYLINDERS

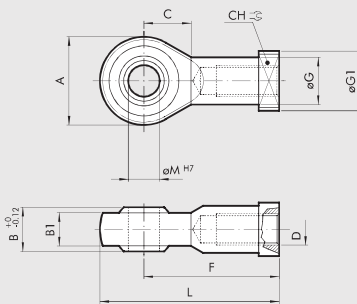
## FORK MODEL GK-M



Code	Ø	øM	C	B	A	L	F	D	N	Weight [g]
W0950322020	32	10	20	10	20	52	40	M10x1.25	26	92
W0950402020	40	12	24	12	24	62	48	M12x1.25	32	148
W0950502020	50	16	32	16	32	83	64	M16x1.5	40	340
W0950502020	63	16	32	16	32	83	64	M16x1.5	40	340
W0950802020	80	20	40	20	40	105	80	M20x1.5	48	690
W0950802020	100	20	40	20	40	105	80	M20x1.5	48	690
W0951252020	125	30	54	30	55	148	110	M27x2	65	1835

Note: Ø32÷100 Supplied complete with 1 pin and 1 clip; Ø125 Supplied complete with 1 pin and 2 seeger

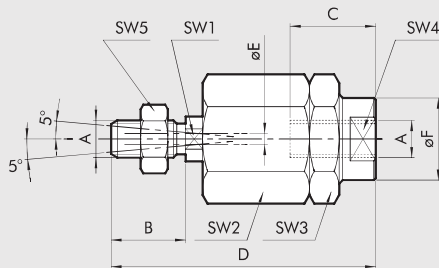
## ROD EYE - MODEL GA-M



Code	Ø	øM	C	B1	B	A	L	F	D	øG	CH	øG1	Weight [g]
W0950322025	32	10	15	10.5	14	28	57	43	M10x1.25	15	17	19	78
W0950402025	40	12	17	12	16	32	66	50	M12x1.25	17.5	19	19	116
W0950502025	50	16	22	15	21	42	85	64	M16x1.5	22	22	22	226
W0950502025	63	16	22	15	21	42	85	64	M16x1.5	22	22	22	226
W0950802025	80	20	26	18	25	50	102	77	M20x1.5	27.5	30	27	404
W0950802025	100	20	26	18	25	50	102	77	M20x1.5	27.5	30	27	404
W0951252025	125	30	36	25	37	70	145	110	M27x2	40	41	50	1190

Note: Individually packed

## SELF ALIGNING ROD COUPLER - MODEL GA-K



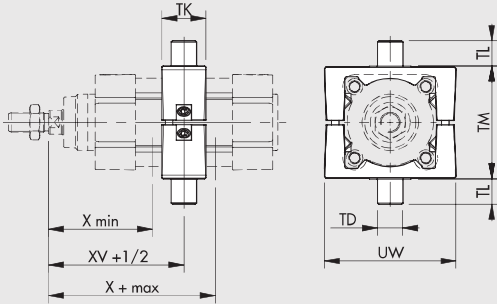
Code	Ø	A	B	C	D	øF	øE	SW <sub>1</sub>	SW <sub>2</sub>	SW <sub>3</sub>	SW <sub>4</sub>	SW <sub>5</sub>	Weight [g]
W0950322030	32	M10x1.25	20	20	71	22	4	12	30	30	19	17	216
W0950402030	40	M12x1.25	24	20	75	22	4	12	30	30	19	19	220
W0950502030	50	M16x1.5	32	32	103	32	4	20	41	41	30	24	620
W0950502030	63	M16x1.5	32	32	103	32	4	20	41	41	30	24	620
W0950802030	80	M20x1.5	40	40	119	32	4	20	41	41	30	30	680
W0950802030	100	M20x1.5	40	40	119	32	4	20	41	41	30	30	680

Note: Individually packed

## NOTES

**INTERMEDIATE HINGE - MODEL EN, FOR STD AND STD TWO-FLAT SERIES**

+ = ADD THE STROKE  
+ 1/2 = ADD HALF THE STROKE

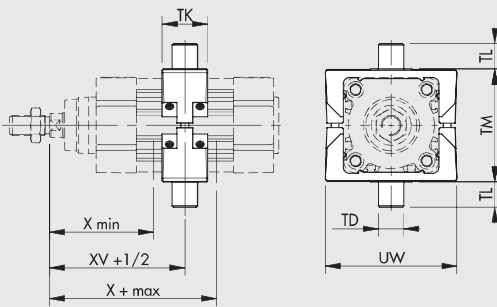


Code	Ø	X <sub>(min)</sub>	XV	X <sub>(max)</sub>	TM	TL	TD <sub>e9</sub>	TK	UW	Weight [g]	T [Nm] ♦
0950322007	32	63	73	83	50	12	12	22	65	282	4
0950402007	40	72	82.5	93	63	16	16	28	75	582	10
0950502007	50	83	90	97	75	16	16	32	95	870	15
0950632007	63	86.5	97.5	108.5	90	20	20	35	105	1192	20
0950802007	80	104	110	116	110	20	20	40	130	1950	20
0951002007	100	113.5	120	126.5	132	25	25	45	145	2690	25
0951252007	125	135	145	155	160	25	25	50	175	3927	30

Note: Supplied with 4 grub screws, 2 pins  
♦ Recommended tightening torque of grub screws

**INTERMEDIATE HINGE - MODEL EN, FOR TYPE A AND TYPE A TWO-FLAT SERIES**

+ = ADD THE STROKE  
+ 1/2 = ADD HALF THE STROKE

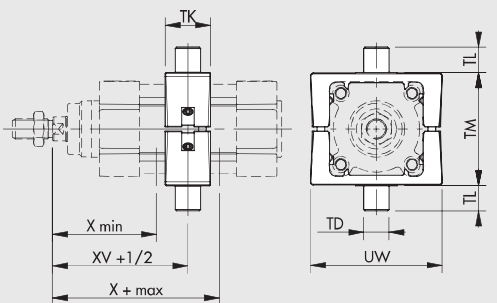


Code	Ø	X <sub>(min)</sub>	XV	X <sub>(max)</sub>	TM	TL	TD <sub>e9</sub>	TK	UW	Weight [g]	T [Nm] ♦
0950322107	32	63	73	83	50	12	12	22	65	170	2
0950402107	40	72	82.5	93	63	16	16	28	75	360	5
0950502107	50	83	90	97	75	16	16	28	95	595	6
0950632107	63	86.5	97.5	108.5	90	20	20	36	105	960	10
0950802107	80	104	110	116	110	20	20	36	130	1530	10
0951002107	100	113.5	120	126.5	132	25	25	45	145	2417	20
0951252107	125	135	145	155	160	25	25	50	175	3480	25

Note: Supplied with 8 grub screws, 2 pins  
♦ Recommended tightening torque of grub screws

**INTERMEDIATE HINGE - MODEL EN, FOR SERIES 3 AND TWO-FLAT SERIES 3**

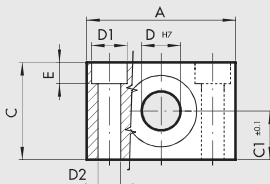
+ = ADD THE STROKE  
+ 1/2 = ADD HALF THE STROKE



Code	Ø	X <sub>(min)</sub>	XV	X <sub>(max)</sub>	TM	TL	TD <sub>e9</sub>	TK	UW	Weight [g]	T [Nm] ♦
0950322207	32	63	73	83	50	12	12	22	65	212	3
0950402207	40	72	82.5	93	63	16	16	28	75	440	8
0950502207	50	83	90	97	75	16	16	28	95	644	15
0950632207	63	86.5	97.5	108.5	90	20	20	36	105	1080	15
0950802207	80	104	110	116	110	20	20	36	130	1654	15
0951002207	100	113.5	120	126.5	132	25	25	45	145	2550	20
0951252207	125	135	145	155	160	25	25	50	175	3726	20

Note: Supplied with 4 grub screws, 2 pins  
♦ Recommended tightening torque of grub screws

**COUNTER-HINGE FOR MODEL EN - MODEL EL**



Code	Ø	A	A <sub>1</sub>	B	C	C <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D	E	H	øL	Weight [g]
W0950322009	32	46	32	18	30	15	11	7	12	6.5	10.5	22	162
W0950402009	40	55	36	21	36	18	15	9	16	8.5	12	28	278
W0950402009	50	55	36	21	36	18	15	9	16	8.5	12	28	278
W0950632009	63	65	42	23	40	20	18	11	20	10.5	13	35	414
W0950632009	80	65	42	23	40	20	18	11	20	10.5	13	35	414
W0951002009	100	75	50	28.5	50	25	20	13	25	12.5	16	40	715
W0951002009	125	75	50	28.5	50	25	20	13	25	12.5	16	40	715



## ACCESSORIES FOR ISO 15552 CYLINDERS: "SECURE LOCK" ROD LOCK

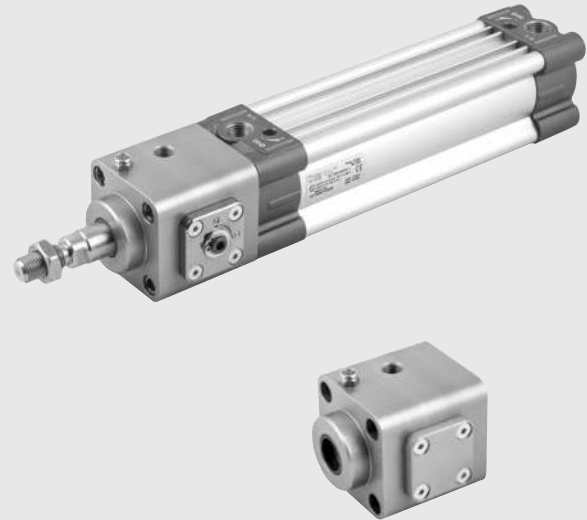
A new series of in-line locking devices by Metal Work with superior characteristics. Performances are guaranteed by a system of springs and conical sliding and ball bearings which, combined with carefully selected materials, ensure reliable and accurate locking of the system, which can be released by supplying air through the relevant inlet.

A version with manual release is also available.

When "Secure Lock" devices are fitted to ISO 15552 cylinders, the piston rod can be locked in position when the system is turned off or an emergency stop occurs.

"Secure Lock" can withstand occasional situations of dynamic locking. It locks the rod and prevents it from moving. Since negligible play is created, it is ideal for high-precision applications.

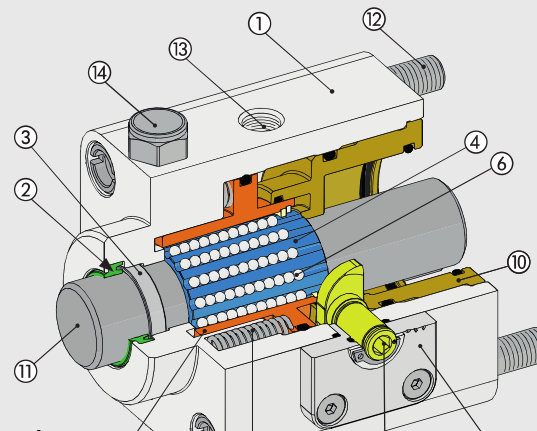
With the optional cam-operated manual release function, the rod lock can be disengaged mechanically merely by rotating a pin using a standard Allen wrench. When the pin is released, it automatically returns to the "rod locked" position.



TECHNICAL DATA		Ø32	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125
Pilot pressure	bar	5 to 10						
	MPa	0.5 to 1						
	psi	72.5 to 145						
Temperature range	°C	-10 to +80						
	Operation	NC - Bidirectional						
Mechanics		Locking gripper controlled by a bearing ball piston.						
Locking force	N	650	1100	1600	2500	4000	6300	8700
Notes		The piston rod must be clean and dry. During assembly, do not rotate the piston rod if the Secure Lock device is locked.						

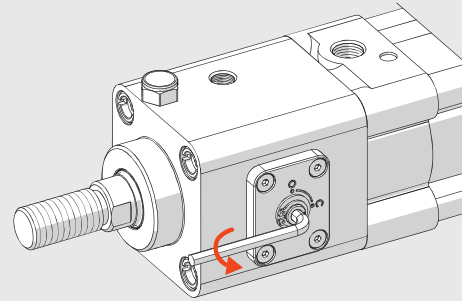
### COMPONENTS

- ① BODY: anodized aluminium
- ② WIPER RING: polyurethane
- ③ GUIDE RING: technopolymer
- ④ GRIPPER: hardened steel
- ⑤ SPRINGS: spring steel
- ⑥ BALLS: hardened steel
- ⑦ PISTON: hardened steel
- ⑧ MANUAL RELEASE PLATE: treated aluminium
- ⑨ MANUAL RELEASE PIN: hardened steel
- ⑩ PLUG: anodized aluminium
- ⑪ FALSE ROD: steel
- ⑫ TIE RODS: stainless steel
- ⑬ AIR SUPPLY FOR RELEASE
- ⑭ SILENCER: nickel-plated brass with stainless steel wire



**MANUAL RELEASE**

In the versions equipped with manual control it is possible to use an hex key to temporarily unlock the device.  
The hex key must be inserted in the hexagonal seat of the pin for the manual control (component 9 in the list of components) and used for the rotation of the same as shown in the figure.  
Once released, the pin will automatically return to its initial position.

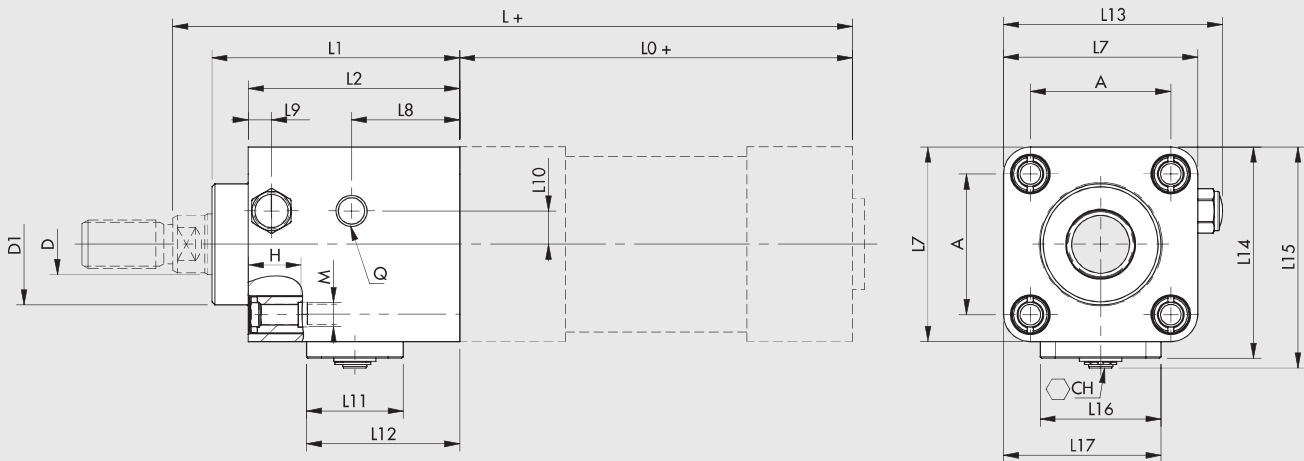


ACTUATORS

ACCESSORIES FOR ISO 15552 CYLINDERS

**DIMENSIONS**

+ = ADD STROKE



**VERSION WITH MANUAL CONTROL**

Code	Ø	L1	L2	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	D	D1	A	H	M	Q	CH	L0	L	Weight [g] ♦
W5010010102	32	58	48	46	25.2	9.5	8	30	41.2	50.7	51.5	54.3	28	37	12	30	32.5	14.5	M6	M5	2.5	94	162	295
W5010010103	40	65	55	54	26.9	6	8.5	32	43.9	58.7	59.5	63	33	43.5	16	35	38	14.5	M6	G1/8	4	105	180	444
W5010010104	50	82	70	64.3	35.8	7.7	11	32	50.7	72.5	69.8	73	40	52.2	20	40	46.5	17.5	M8	G1/8	4	106	200	826
W5010010105	63	82	70	76	34.6	8.7	16.3	32	50.5	84.2	81.5	84.7	40	58	20	45	56.5	17.5	M8	G1/8	4	121	215	1060
W5010010106	80	110	90	94	41.3	14.7	20.5	47	66.1	102.2	103	106.3	65	79.5	25	45	72	21.5	M10	G1/8	6	128	251	2272
W5010010107	100	115	100	111	49.8	18.2	25	47	73.6	119.2	120	123.3	65	88.5	25	55	89	21.5	M10	G1/8	6	138	266	3410
W5010010108	125	167	122	135	67.5	23	30	54	90.2	143.2	148	151.8	84	109.5	32	60	110	25.5	M12	G1/8	10	160	347	6328

♦ Weight of the rod lock without the false rod

**VERSION WITHOUT MANUAL CONTROL**

Code	Ø	L1	L2	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	D	D1	A	H	M	Q	CH	L0	L	Weight [g] ♦
W5010020102	32	58	48	46	25.2	9.5	8	30	41.2	50.7	51.5	-	28	37	12	30	32.5	14.5	M6	M5	-	94	162	290
W5010020103	40	65	55	54	26.9	6	8.5	32	43.9	58.7	59.5	-	33	43.5	16	35	38	14.5	M6	G1/8	-	105	180	432
W5010020104	50	82	70	64.3	35.8	7.7	11	32	50.7	72.5	69.8	-	40	52.2	20	40	46.5	17.5	M8	G1/8	-	106	200	814
W5010020105	63	82	70	76	34.6	8.7	16.3	32	50.5	84.2	81.5	-	40	58	20	45	56.5	17.5	M8	G1/8	-	121	215	1044

**ACCESSORIES FOR ISO 15552 CYLINDERS:  
MECHANICAL ROD LOCK SERIES RL**

ACTUATORS

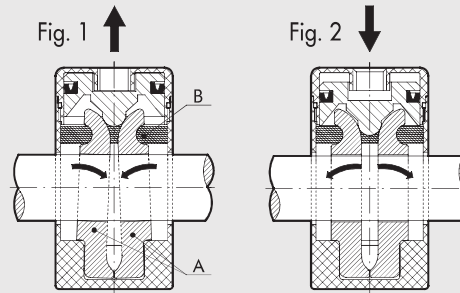
ACCESSORIES FOR ISO 15552 CYLINDERS

TECHNICAL DATA		Ø32	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125
Pilot pressure	bar	4 to 8						
	MPa	0.4 to 0.8						
	psi	58 to 118						
Temperature range	°C	-10 to +80						
Operation		NC - Bidirectional						
Mechanics		Double pad with mechanical lock						
		Mechanical stick-slip						
Locking force	N	650	1100	1600	2500	4000	6300	8700
<b>MATERIAL</b>								
body		Aluminium						
pad		Brass						
spring		NBR						
piston		Synthetic material with added Teflon®						
gasket		NBR						
pilot port		M5 o 1/8"						



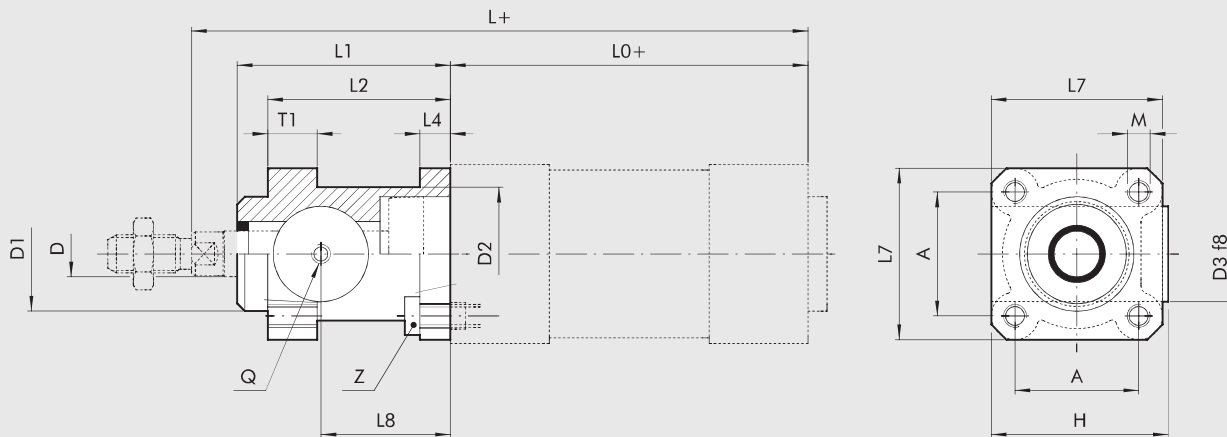
**OPERATING PRINCIPLE**

The mechanical rod lock series RL is a normally-closed mechanism. In the absence of pneumatic piloting, the two pads (A) lock the cylinder rod in both directions (Fig. 1). With pneumatic piloting, the piston rod guide forces the pads to come right up to each other and overcome the counter spring (B) force and the piston rod can slide (Fig. 2). It is important to remember that the mechanical rod lock is a static type, which means that it is necessary to stop the cylinder piston rod pneumatically before locking the part mechanically.



**DIMENSIONS**

+ = ADD THE STROKE



Code	Ø	L <sub>1</sub>	L <sub>2</sub>	L <sub>4</sub>	L <sub>7</sub>	L <sub>8</sub>	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	H	A	T <sub>1</sub>	M	Z	Q	L <sub>0</sub>	L	Weight [g]
W5010001102	32	58	48	8	45	34	12	30	35	25	46.5	32.5	13	M6	M6x20	M5	94	162	150
W5010001103	40	65	55	8	50	38	16	35	40	28	53	38	13	M6	M6x20	G1/8	105	180	200

Guide units series DS-DH-DM ensure optimal alignment and anti-rotation effect of the pneumatic cylinder connected to it. The guide units can be used separately or combined in order to get complete handling units, in which case the guide units can be coupled using the type A and C anchorage (pin and flange).

The guide units can be coupled to ISO 15552 cylinders (Ø 32 to 100).

The following versions are available:

U PROFILE (GDS)\*: for limited loads and speeds

H PROFILE (GDH)\*: for high loads

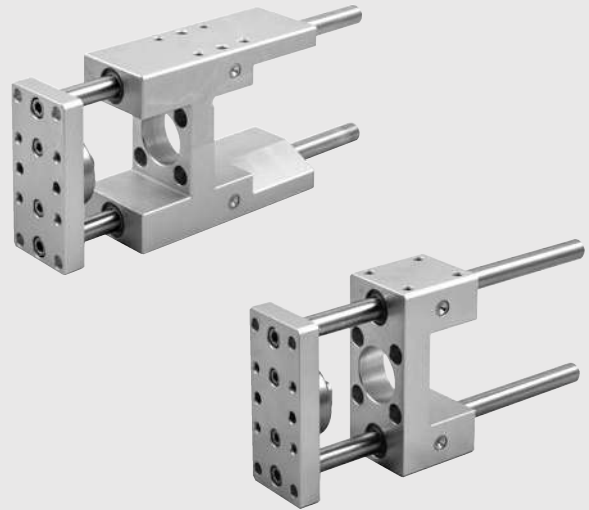
H PROFILE (GDM)\*\*: for high speeds

\* With bronze guide bushing

\*\* With ball guide bushing

**STANDARD STROKES:** 50 - 100 - 150 - 200 - 250 - 320 - 400 - 500

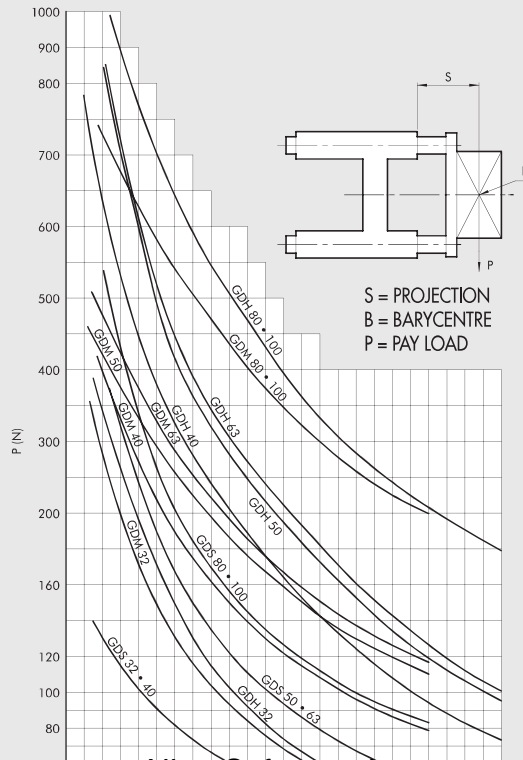
For weights, see cylinder "General technical data" at the beginning of the chapter.



#### COMPONENTS

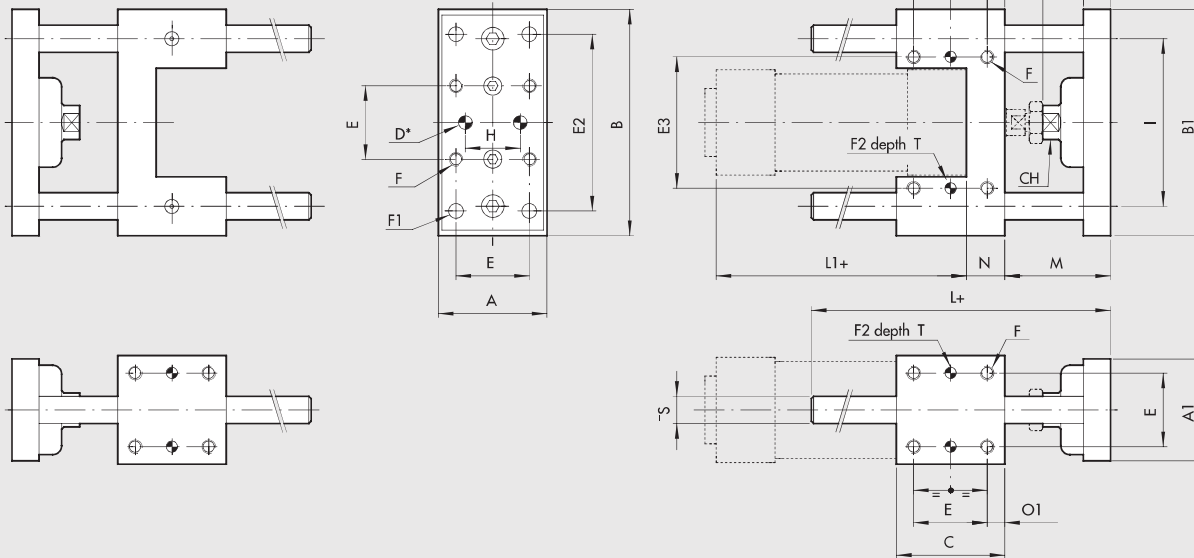
<b>SERIES GDS-GDH</b>	Body:	aluminium alloy
	Guide bushing:	self-lubricating sintered bronze and wiper rings
	Piston rod:	grinded chromed steel
<b>SERIES GDM</b>	Body:	aluminium alloy
	Guide bushing:	ball linear bearings and scraper ring
	Piston rod:	hardened, chromed and grinded steel

#### GRAPH OF GUIDE UNIT LOADS



## DIMENSIONS TYPE GDS

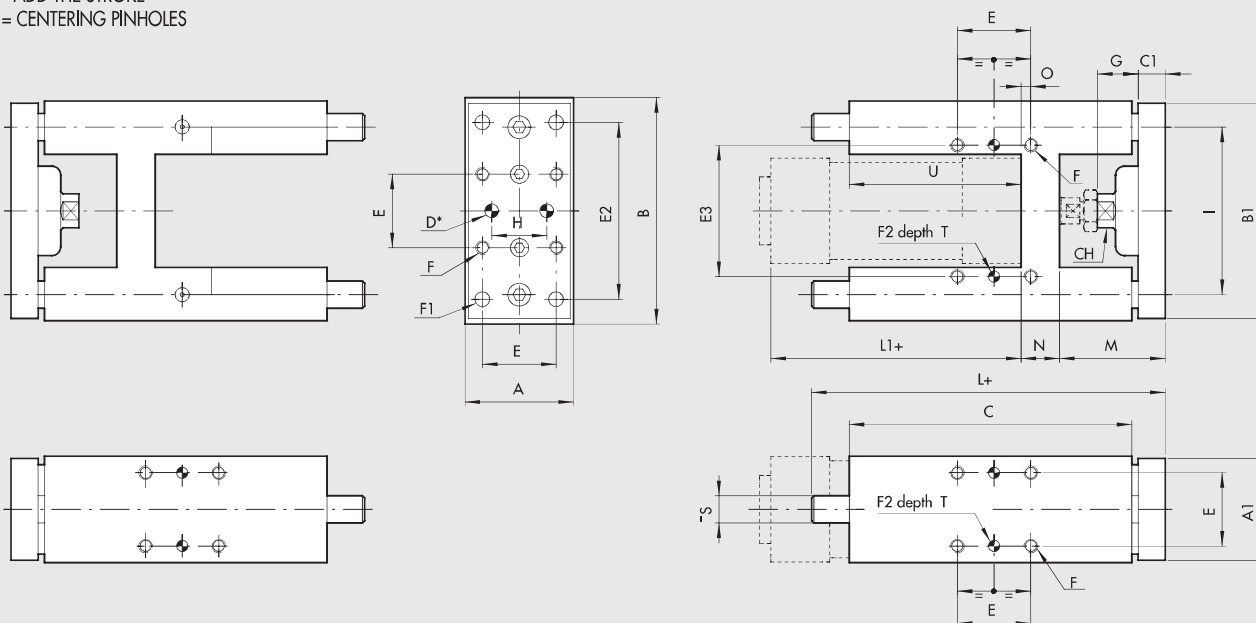
+ = ADD THE STROKE  
\* = CENTERING PINHOLES



Ø	A	A <sub>1</sub>	B	B <sub>1</sub>	C	C <sub>1</sub>	D <sup>H7</sup>	E	E <sub>1</sub>	E <sub>2</sub>	E <sub>3</sub>	F	F <sub>1</sub>	F <sub>2</sub> <sup>H7</sup>	G	H	I	L	L <sub>1</sub>	M	N	O	O <sub>1</sub>	ØS	CH	T
32	48	45	100	95	48	12	6	32.5	32.5	78	58	M6	6.5	6	18	31	74	108	94	46	17	7.8	7.8	12	15	7
40	56	53	106	101	58	15	6	38	38	84	64	M6	6.5	6	21	36	80	120	105	52	21	10	10	12	15	7
50	66	63	125	120	59	15	6	46.5	46.5	100	80	M8	8.5	6	24	45	96	130	106	65	25	6.3	6.3	16	22	7
63	76	73	132	127	76	15	6	56.5	56.5	105	95	M8	8.5	6	24	45	104	145	121	65	25	9.8	9.8	16	22	7
80	98	95	165	160	90	16	6	72	50	130	130	M10	11	6	31	56	130	170	128	71	34	20	9	20	27	10
100	118	115	185	180	110	16	6	89	70	150	150	M10	11	6	31	56	152	190	138	71	39	20	10.5	20	27	10

## DIMENSIONS TYPE GDH-GDM

+ = ADD THE STROKE  
\* = CENTERING PINHOLES



Ø	A	A <sub>1</sub>	B	B <sub>1</sub>	C	C <sub>1</sub>	CH	D <sup>H7</sup>	E	E <sub>2</sub>	E <sub>3</sub>	F	F <sub>1</sub>	F <sub>2</sub> <sup>H7</sup>	G	H	I	L	L <sub>1</sub>	M	N	O	ØS	U	T
---	---	----------------	---	----------------	---	----------------	----	-----------------	---	----------------	----------------	---	----------------	------------------------------	---	---	---	---	----------------	---	---	---	----	---	---

**ORDER CODE GUIDE UNIT**

Version	Code	Bore	Type
Sliding on bronze bushings (GDS)	W0700321...	32	UNIT MW DS 032...
	W0700401...	40	UNIT MW DS 040...
	W0700501...	50	UNIT MW DS 050...
	W0700631...	63	UNIT MW DS 063...
	W0700801...	80	UNIT MW DS 080...
	W0701001...	100	UNIT MW DS 100...
Sliding on bronze bushings (GDH)	W0700322...*	32	UNIT MW DH 032...
	W0700402...*	40	UNIT MW DH 040...
	W0700502...	50	UNIT MW DH 050...
	W0700632...	63	UNIT MW DH 063...
	W0700802...	80	UNIT MW DH 080...
	W0701002...	100	UNIT MW DH 100...
Sliding on ball bearing (GDM)	W0700323...*	32	UNIT MW DM 032...
	W0700403...*	40	UNIT MW DM 040...
	W0700503...	50	UNIT MW DM 050...
	W0700633...	63	UNIT MW DM 063...
	W0700803...	80	UNIT MW DM 080...
	W0701003...	100	UNIT MW DM 100...

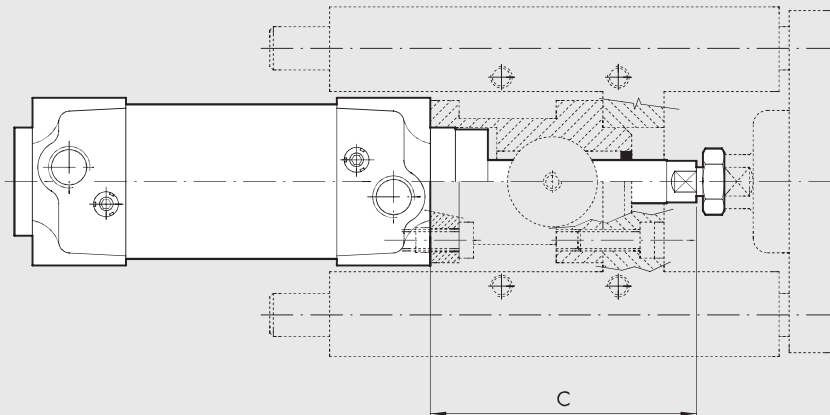
\* Also available in V-Lock version (see chapter A3).

\* Also available in V-Lock version (see chapter A3).

Note: To complete the type and code, add the 3-digit stroke (e.g. 50=050)

**DIMENSIONS ROD LOCK + GUIDE UNIT COD. 137**

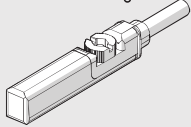
Ø	C
32	74
40	85
50	107
63	107
80	136
100	143



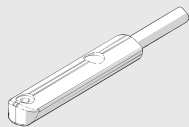
## ACCESSORIES FOR ISO 15552 CYLINDERS: MAGNETIC SENSORS AND POSITION SENSOR

### RETRACTABLE SENSOR

**A** SENSOR, SQUARE TYPE   
Latest generation,  
secure fixing



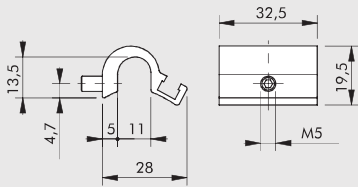
**B** SENSOR, OVAL TYPE   
Traditional



For codes and technical data, see **chapter A6**.

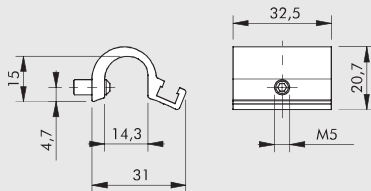
### D SENSOR SUPPORT BRACKETS FOR SENSORS SQUARE TYPE AND OVAL TYPE

Ø 32 to 40



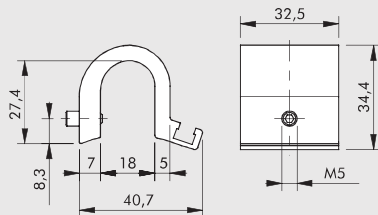
Code	Description
W0950001711	Bracket D.32-40

Ø 50 to 63



Code	Description
W0950001712	Bracket D.50-63

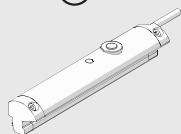
Ø 80 to 125



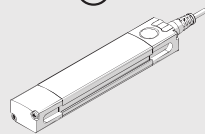
Code	Description
W0950001713	Bracket D.80-100-125

### POSITION SENSOR

**G** LTS 

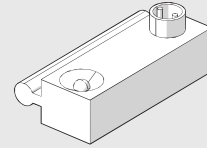


**H** LTL 



Model For ISO 15552 cylinders

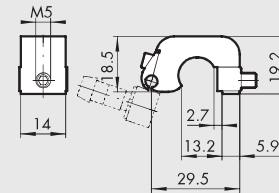
### C SENSOR SERIES DSM



Can be used on ISO 15552 cylinders in the STD series and series 3.  
For codes and technical data, see **chapter A6**.

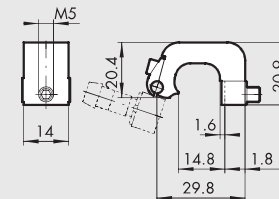
### E SENSOR SUPPORT BRACKETS FOR SENSORS DSM

Ø 32 to 40



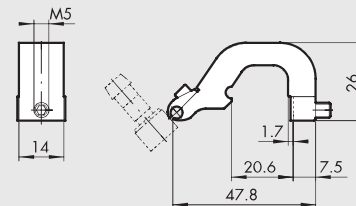
Code	Description
W0950000711	Bracket D.32-40 DST 80

Ø 50 to 63



Code	Description
W0950000712	Bracket Bracket D.50-63 DST 81

Ø 80 to 125

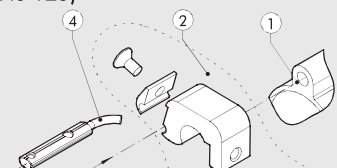


Code	Description
W0950000713	Bracket D.80-100-125 DST 82

### F ADAPTER FOR OVAL TYPE RETRACTABLE SENSORS

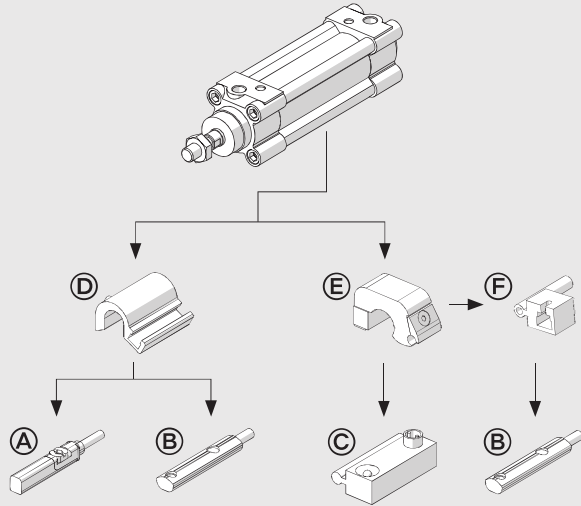
#### ASSEMBLY DIAGRAM

- ISO 15552 cylinder with serie STD or serie 3 barrel
- Sensor bracket mod. DST (Ø 32 to 125)
- Adaptor
- Retractable sensor "oval type"

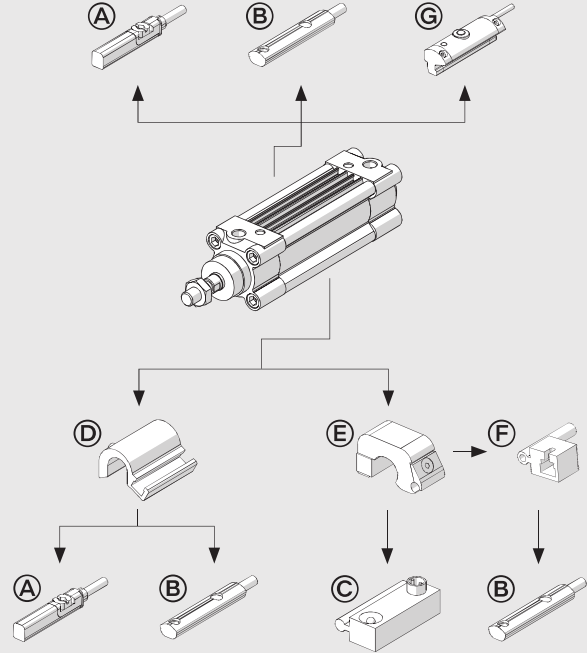


USE SENSORS

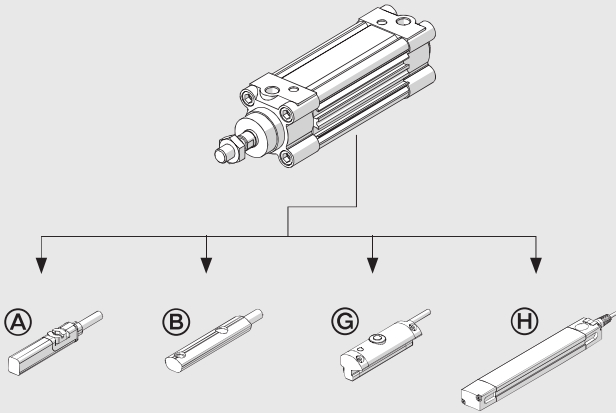
SERIES STD



SERIES 3



TYPE A



NOTES

ACTUATORS

ACCESSORIES FOR ISO 15552 CYLINDERS

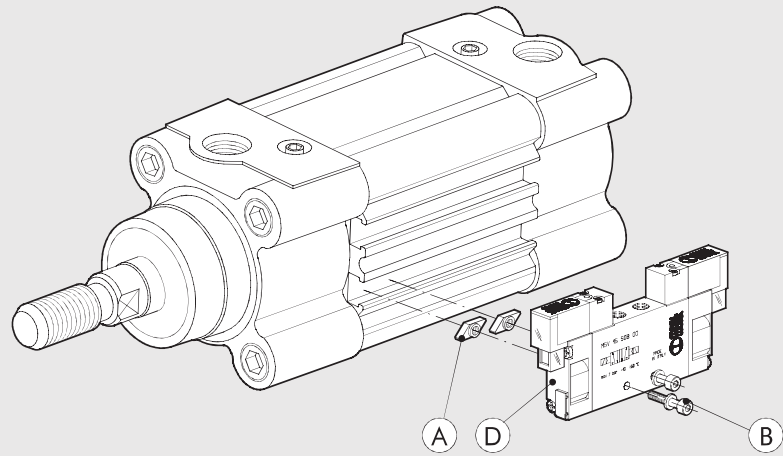


## VALVE ASSEMBLY ON CYLINDER FOR TYPE A AND SERIES 3 CYLINDERS

With this type of cylinder, the valves (D) can be mounted directly using the retracting sensor slot, without requiring the use of intermediate brackets.

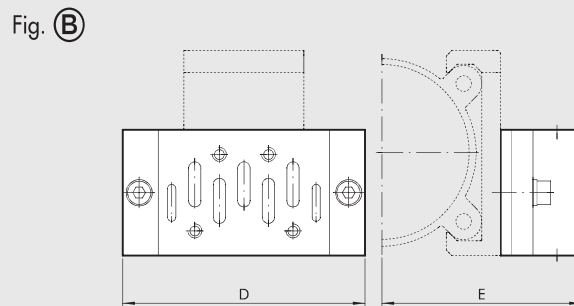
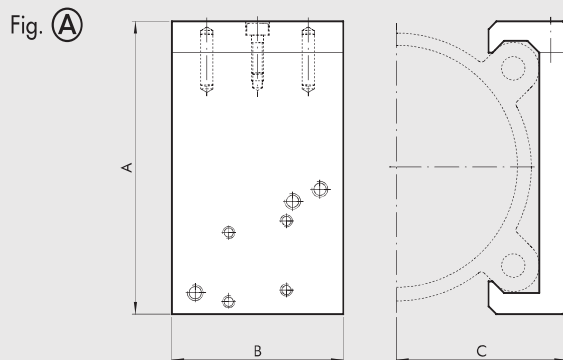
This can be done using the special plates (A), which come with both the M3 and M4 threads, and screws (B) of the size, type and quantity shown in the table below.

For ISO 1 and ISO 2 valves, the kit on which the valve is to be mounted (codes shown in the tables) will be fitted to the cylinder using the special plates (A) and the screws (B) listed in the table.



Type of valve to mount (D)	M3 fixing plate (A) code 0950003002	M4 fixing plate (A) code 0950003001	Screw (B) for connection to cylinder (one per plate)	Washer (B) (one per screw)	Valve assembly kit
MINIMACH	n° 2	-	M3x16 UNI 5931 (DIN 912)	A3.2 UNI 1751 (DIN 127A)	-
MACH 11	n° 2	-	M3x16 UNI 5931 (DIN 912)	A3.2 UNI 1751 (DIN 127A)	-
SERIE 70 1/8	-	n° 2	M4x25 UNI 5931 (DIN 912)	-	-
SERIE 70 1/4	-	n° 2	M4x30 UNI 5931 (DIN 912)	A4.3 UNI 1751 (DIN 127A)	-
SERIE 70 1/2	-	n° 2	M4x45 UNI 5931 (DIN 912)	A4.3 UNI 1751 (DIN 127A)	-
ISO 1	-	n° 2	M4x8 UNI 7688 (DIN 965A)	-	0950002001
ISO 2	-	n° 2	M4x8 UNI 7688 (DIN 965A)	-	0950002002

## FIXING BRACKET SERIES KCV FOR TYPE STD AND SERIES 3 CYLINDERS



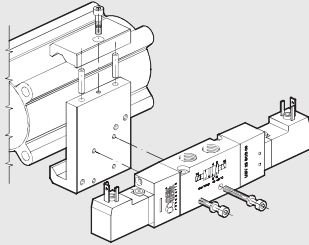
### VALVE FIXING BRACKET - CYLINDER (Fig. A)

Code	Ø	A	B	C	ISO 1		ISO 2		Applicable valves	Weight [g]
					D	E	D	E		
0950322090	32	54	40	29.5	110	64.5	124	70.5	MACH 16 Series 70 1/8-1/4 ISO 1 - ISO 2	80
0950402090	40	59.5	40	32.2	110	67.2	124	73.2	MACH 16 Series 70 1/8-1/4 ISO 1 - ISO 2	86
0950502090	50	71.5	40	37	110	72	124	78	MACH 16 Series 70 1/8-1/4 ISO 1 - ISO 2	93
0950632090	63	81.5	40	42	110	77	124	83	MACH 16 Series 70 1/8-1/4 ISO 1 - ISO 2	101
0950802090	80	99	60	53.5	110	88.5	124	94.5	Series 70 1/8-1/4-1/2 ISO 1 - ISO 2	222
0951002090	100	119.5	60	63.5	110	98.5	124	104.5	Series 70 1/8-1/4-1/2 ISO 1 - ISO 2	258
0951252090	125	148	60	76.5	110	111.5	124	117.9	Series 70 1/8-1/4-1/2 ISO 1 - ISO 2	298

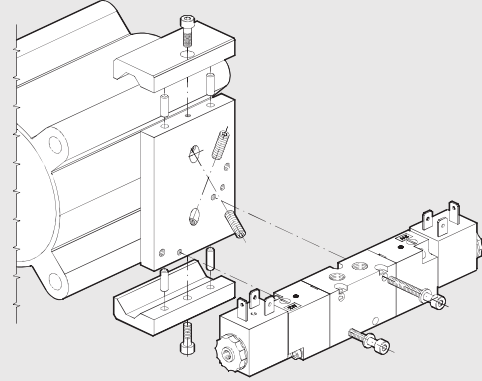
### KIT FOR FIXING VALVES TO BRACKETS, FOR SERIES KCV BRACKETS

VALVE ASSEMBLY ON CYLINDER

FOR Ø 32-40-50-63



FOR Ø 80-100-125



NOTES

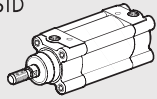
**SPARE PARTS**

ACTUATORS

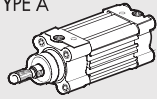
SPARE PARTS FOR ISO 15552 CYLINDERS

**CYLINDERS ISO 15552**

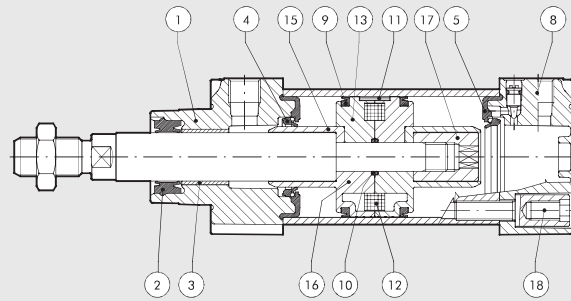
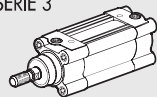
STD



TYPE A



SERIE 3



Code	Bore	Type	Parts
009...0101	Ø 32 to 125	Complete set of polyurethane gaskets	2-4-5-9-10
009...0103	Ø 32 to 125	Complete set of (high temperature) FKM/FPM gaskets	2-4-5-9-10
009...0502	Ø 32 to 125	Complete set of NBR gaskets	2-4-5-9-10
009...1651	Ø 32 to 125	Polyurethane piston rod gasket kit	2
009...1652	Ø 32 to 125	NBR piston rod gasket kit + seeger	2
009...1653	Ø 32 to 125	FKM/FPM piston rod gasket kit + seeger	2
009...0110N	Ø 32 to 125	Complete polyurethane front head kit	1-2-3-4-5-18
009...0304N	Ø 32 to 125	Complete NBR front head kit	1-2-3-4-5-18
009...0122N	Ø 32 to 125	Complete R front head kit	1-2-3-4-5-18
009...0120N	Ø 40 to 125	Complete M front head kit	1-2-3-4-5-18
009...0111N	Ø 32 to 125	Complete polyurethane rear head kit	4-5-8-18
009...0305N	Ø 32 to 125	Complete NBR rear head kit	4-5-8-18
009...0604	Ø 32 to 63	Complete polyurethane piston kit	9-10-16-17
009...0604	Ø 80 to 125	Complete polyurethane piston kit	9-10-11-13-15-17
009...0602	Ø 32 to 63	Complete NBR piston kit	9-10-16-17
009...0602	Ø 80 to 125	Complete NBR piston kit	9-10-11-13-15-17
009...0704N	Ø 32 to 63	Complete polyurethane head front + rear + piston kit	1-2-3-4-5-8-9-10-16-17-18
009...0704N	Ø 80 to 125	Complete polyurethane head front + rear + piston kit	1-2-3-4-5-8-9-10-11-13-15-17-18
009...0702N	Ø 32 to 63	Complete NBR head front + rear + piston kit	1-2-3-4-5-8-9-10-16-17-18
009...0702N	Ø 80 to 125	Complete NBR head front + rear + piston kit	1-2-3-4-5-8-9-10-11-13-15-17-18
009...0800	Ø 32 to 125	Magnet	12

**Notes**

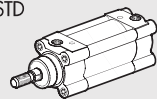
Cylinders in the R and M versions do not come with the single piston rod gasket.

When replacing all the gaskets in the R version cylinders, use the complete set of the R front head, code 009...0122N and the complete set of polyurethane gaskets code 009...0101 (the front head gaskets are in excess).

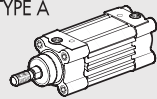
When replacing all the gaskets in the M version cylinders, use the complete set of the M front head, code 009...0120N and the complete set of FKM/FPM, code 009...0103 (the front head gaskets are in excess).

**CYLINDERS ISO 15552 TWO-FLAT**

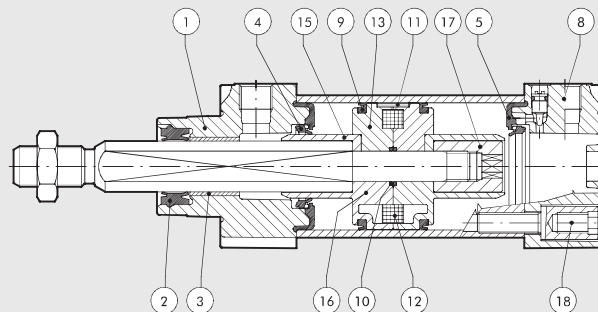
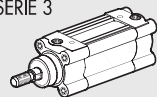
STD



TYPE A



SERIE 3



Code	Bore	Type	Parts
------	------	------	-------

In some applications, the cylinders are exposed to aggressive environments (e.g. the dairy, fruit & vegetable and food industry) or to substances and washings with aggressive detergents (e.g. caustic soda, hydrochloric acid and lactic acid).

Under these conditions, the HCR series cylinders ensure better corrosion resistance.

Cylinders made to ISO 15552, designed and built with materials and/or surface treatments that are highly resistant to corrosion.

They come in various versions and with a specific range of accessories:

- with or without magnet
- with single or through piston rod

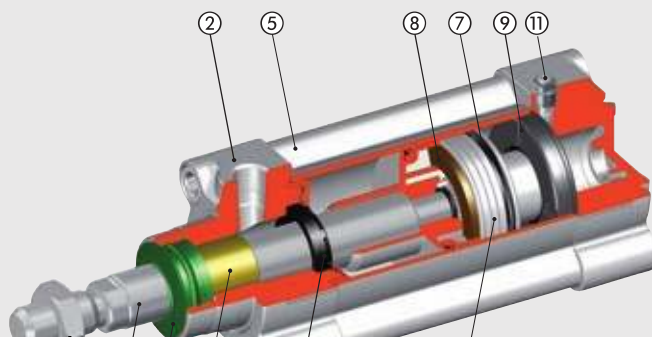
Also available with liner in the STD series or series 3.



TECHNICAL DATA		Ø32	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125
Max operating pressure	bar					10		
	MPa					1		
	psi					145		
Temperature range	°C					-10 to +60		
	Resistance in corrosive environments at 20°C					Basic solution (sodium hydroxide - pH max 12) Acid solution (hydrochloric acid - pH min. 2.5) Salt mist testing to DIN 50021-SS, 500 hours		
Fluid						Unlubricated air. Lubrication, if used, must be continuous		
Standard strokes	mm					1 to 2800		1 to 2600
Versions						Double-acting, Double-acting cushioned, Through-rod cushioned		
Sensor magnet						Available magnetic and non-magnetic versions.		
Gaskets						Piston rod gaskets made of polyurethane, other gaskets in NBR		
Forces generated at 6 bar thrust/retraction						See cylinder "General technical data" at the beginning of the chapter		
Weights						See cylinder "General technical data" at the beginning of the chapter		

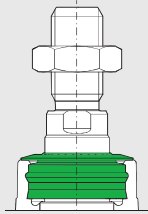
### COMPONENTS

- ① PISTON ROD: AISI 316, thickness-chromed
- ② HEAD: anodized pressure die-cast aluminium, polyurethane coating
- ③ PISTON ROD GASKET: special polyurethane
- ④ GUIDE BUSHING: steel strip with bronze and PTFE insert
- ⑤ BARREL: drawn anodized calibrated aluminium
- ⑥ SEMI-PISTON: made of self-lubricating technopolymer with built-in cushioning olives (aluminium with technopolymer pad for Ø 80, 10 and 125)
- ⑦ PISTON GASKET: NBR
- ⑧ MAGNET: plastoferrite
- ⑨ BUFFER + Static O-rings: NBR
- ⑩ CUSHIONING GASKET: NBR



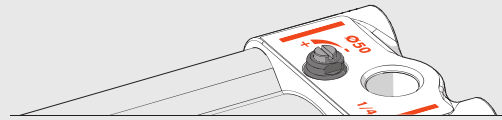
### PISTON ROD GASKET FOR HYGIENICALLY-SENSITIVE APPLICATIONS

No fluid stagnation, not even with cylinder in upward direction. This type of gasket is not available for Ø 125.



### CUSHIONING PINS WITHOUT RECESSES

Anti-ejection pin and bushing made of AISI 316 stainless steel, protruding from the head and with a pass-through screwdriver slot to prevent fluid stagnation.



### DOUBLE HEAD PROTECTION

POLYURETHANE COATING

ANODISATION

HEAD MADE OF PRESSURE DIE-CAST ALUMINIUM ALLOY

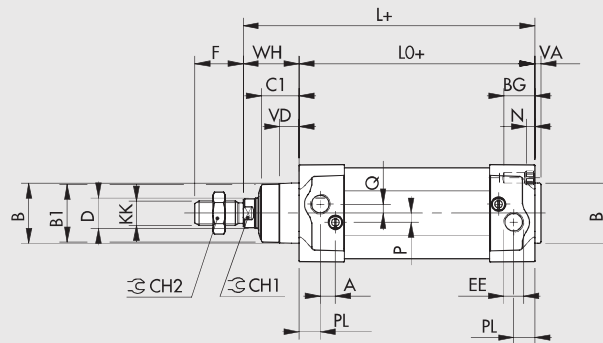
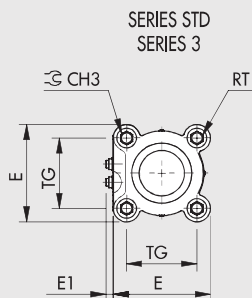
### FOOD GRADE GREASE

NSF H1 certified.  
Adhesive, waterproof.



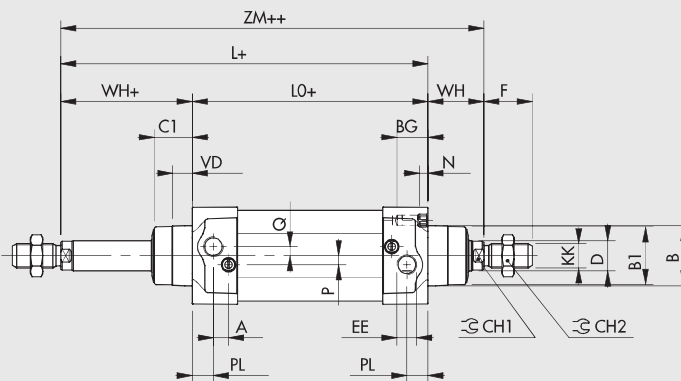
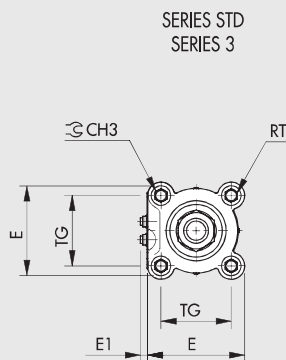
### DIMENSIONS

#### STANDARD VERSION



+ = ADD STROKE  
++ = ADD TWICE THE STROKE

#### THROUGH-ROD VERSION



Ø	PL	VD	A	B	B1	WH	C1	CH1	CH2	CH3	KK	D	TG	VA	F	EE	RT	E	E1 min	E1 max	L	LO	ZM	BG	N	P	Q
32	10	6.5	10	30	28	26	16	10	17	6	M10x1.25	12	32.5	4	22	G1/8	M6	46	5.5	8.4	120	94	146	14.5	4.5	6	4

**KEY TO CODES**

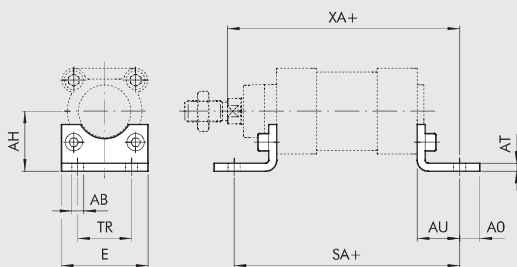
CYL	1 2 1 TYPE	0	32 BORE	0050 STROKE	B MATERIAL	L GASKETS
	121 Double-acting, cushioned	0 Diameter	32	For the maximum	B AISI 316 piston rod, technopolymer piston: standard for cylinders of Ø32 to Ø63	L Piston rod gaskets made of special polyurethane; other gaskets made of NBR
	▲ 122 Through-rod	5 Standard Non-magnetic	40	suppliable strokes, look at the technical data	W AISI 316 piston rod, aluminium piston: standard for all cylinders from Ø80 to 125, Ø32 to 63 with strokes > 999 and Ø32 to 125 for through piston rod versions	
	124 Double-acting, non-cushioned	3 Series 3	50			
		5 Series 3 Non-magnetic	63			
			80			
			■ 100			
			■ 125			

- ▲ Only available for versions with aluminium piston (W)
- In the code of cylinder with digit 5, 3 or 5 in fourth position bore 100 becomes A1; bore 125 becomes A2

**ACCESSORIES: FIXINGS**

**STAINLESS STEEL SHORT FOOT MOUNTING (AISI 304)**

+ = ADD THE STROKE

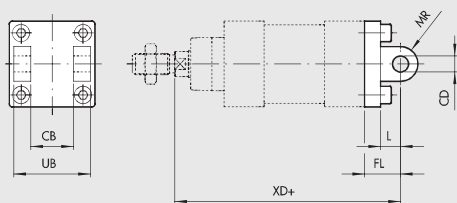


Code	Ø	øAB	AH	AO	AT	AU	TR	E	XA	SA	Weight [g]
W095X322001	32	7	32	11	4	24	32	45	144	142	85
W095X402001	40	9	36	8	4	28	36	52	163	161	95
W095X502001	50	9	45	15	5	32	45	65	175	170	200
W095X632001	63	9	50	13	5	32	50	75	190	185	225
W095X802001	80	12	63	14	6	41	63	95	215	210	435
W095XA12001	100	14	71	16	6	41	75	115	230	220	555
W095XA22001	125	18	90	25	8	45	90	140	270	250	1145

Note: Individually packed with 2 screws

**STAINLESS STEEL FEMALE HINGE - MODEL B (AISI 304)**

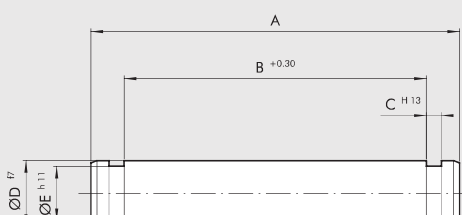
+ = ADD THE STROKE



Code	Ø	UB	CB <sup>H14</sup>	FL	CD <sup>H9</sup>	XD	MR	L	Weight [g]
W095X322003	32	45	26	22	10	142	10	13	175
W095X402003	40	52	28	25	12	160	12	16	250
W095X502003	50	60	32	27	12	170	12	16	425
W095X632003	63	70	40	32	16	190	16	21	635
W095X802003	80	90	50	36	16	210	16	22	1270
W095XA12003	100	110	60	41	20	230	20	27	2000
W095XA22003	125	130	70	50	25	275	25	30	3715

Note: Supplied with 4 screws. WITHOUT PIN.

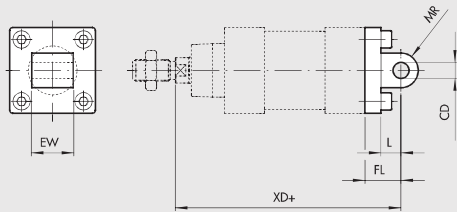
**STAINLESS STEEL FEMALE HINGE PIN (AISI 304)**



Code	Ø	A	B	C	D	E	Weight [g]
W095X322050	32	53	46	1.1	10	9.6	35
W095X402050	40	60	53	1.1	12	11.5	55
W095X502050	50	68	61	1.1	12	11.5	65
W095X632050	63	78	71	1.1	16	15.2	125
W095X802050	80	98	91	1.1	16	15.2	160
W095XA12050	100	118	111	1.3	20	19	295
W095XA22050	125	139	132	1.3	25	23.9	540

### STAINLESS STEEL MALE HINGE - MODEL BA (AISI 304)

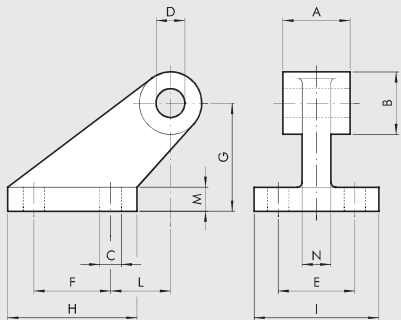
+ = ADD THE STROKE



Code	Ø	EW	FL	MR	CD <sup>H9</sup>	L	XD	Weight [g]
W095X322004	32	26	22	10	10	13	142	195
W095X402004	40	28	25	12	12	16	160	265
W095X502004	50	32	27	12	12	16	170	445
W095X632004	63	40	32	16	16	21	190	715
W095X802004	80	50	36	16	16	22	210	1375
W095XA12004	100	60	41	20	20	27	230	2165
W095XA22004	125	70	50	25	25	30	275	3800

Note: Supplied with 4 screws.

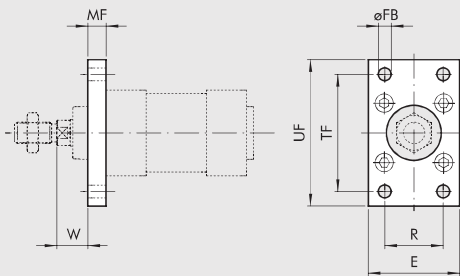
### STAINLESS STEEL ISO COUNTER-HINGE FOR MODEL B - MODEL GL (AISI 304)



Code	Ø	A	B	C	D	E	F	G	H	I	L	M	N	Weight [g]
W095X322008	32	26	20	6.6	10	38	18	32	31	51	3	8	10	165
W095X402008	40	28	22	6.6	12	41	22	36	35	54	2	10	15	235
W095X502008	50	32	26	9	12	50	30	45	45	65	3	12	16	460
W095X632008	63	40	30	9	16	52	35	50	50	67	2	14	16	590
W095X802008	80	50	30	11	16	66	40	63	60	86	7	14	20	1000
W095XA12008	100	60	38	11	20	76	50	71	70	96	5	17	20	1515
W095XA22008	125	70	45	14	25	94	60	90	90	124	10	20	30	3170

Note: Individually packed

### STAINLESS STEEL FRONT FLANGE - MODEL C (AISI 304)

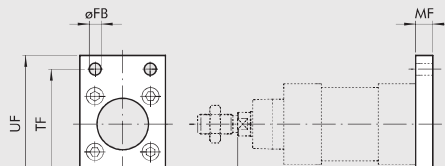


Code	Ø	UF	TF	E	R	MF	øFB	W	Weight [g]
W095X322002	32	80	64	45	32	10	7	16	220
W095X402002	40	90	72	52	36	10	9	20	280
W095X502002	50	110	90	65	45	12	9	25	540
W095X632002	63	120	100	75	50	12	9	25	680
W095X802002	80	150	126	95	63	16	12	30	1550
W095XA12002	100	170	150	115	75	16	14	35	2100
W095XA22002	125	205	180	140	90	20	16	45	3950

Note: Supplied with 4 screws

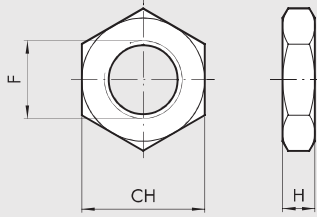
### STAINLESS STEEL REAR FLANGE - MODEL C (AISI 304)

+ = ADD THE STROKE



Code	Ø	UF	TF	E	R	MF	øFB	ZF	Weight [g]
W095X322002	32	80	64	45	32	10	7	105	220
W095X402002	40	90	72	52	36	10	9	115	280
W095X502002	50	110	90	65	45	12	9	118	540
W095X632002	63	120	100	75	50	12	9	133	680
W095X802002	80	150	126	95	63	16	12	144	1550
W095XA12002	100	170	150	115	75	16	14	154	2100
W095XA22002	125	205	180	140	90	20	16	245	3950

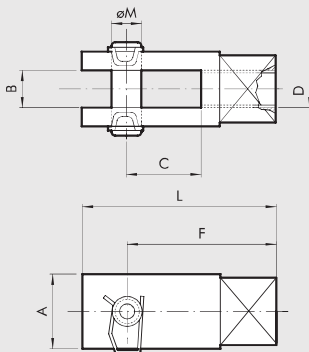
**STAINLESS STEEL NUT FOR PISTON RODS (AISI 316)**



Code	Ø	F	H	CH	Weight [g]
W095X322011	32	M10x1.25	6	17	8
W095X402011	40	M12x1.25	6	19	11
W095X502011	50	M16x1.5	8	24	18
W095X502011	63	M16x1.5	8	24	18
W095X802011	80	M20x1.5	10	30	31
W095X802011	100	M20x1.5	10	30	31
W095XA22011	125	M27x2	13.5	41	81

Note: Individually packed

**STAINLESS STEEL FORK-MODEL GK-M (AISI 304)**



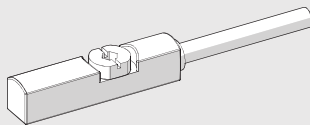
Code	Ø	A	B	C	D	F	L	øM	Weight [g]
W095X322020	32	20	10	20	M10x1.25	40	52	10	90
W095X402020	40	24	12	24	M12x1.25	48	62	12	145
W095X502020	50	32	16	32	M16x1.5	64	83	16	325
W095X502020	63	32	16	32	M16x1.5	64	83	16	325
W095X802020	80	40	20	40	M20x1.5	80	105	20	680
W095X802020	100	40	20	40	M20x1.5	80	105	20	680

Note: Individually packed

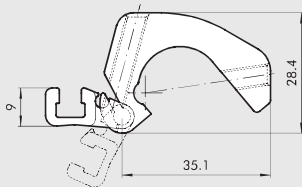
**ACCESSORIES: MAGNETIC SENSORS**

**RETRACTABLE SENSOR, SQUARE TYPE (FOR CORROSIVE ENVIRONMENTS)**

For codes and technical data, see chapter A6.



**SENSOR BRACKET**



Code	Bore	Description
W0950001100	32 to 125	Sensor bracket

Note: Individually packed

**MATERIAL**

Bracket: aluminium  
Sensor holder: aluminium  
Fixing screw: stainless steel



# TWIN-ROD CYLINDER SERIES TWNC

Anti-rotation cylinders with axial dimensions to ISO 15552.

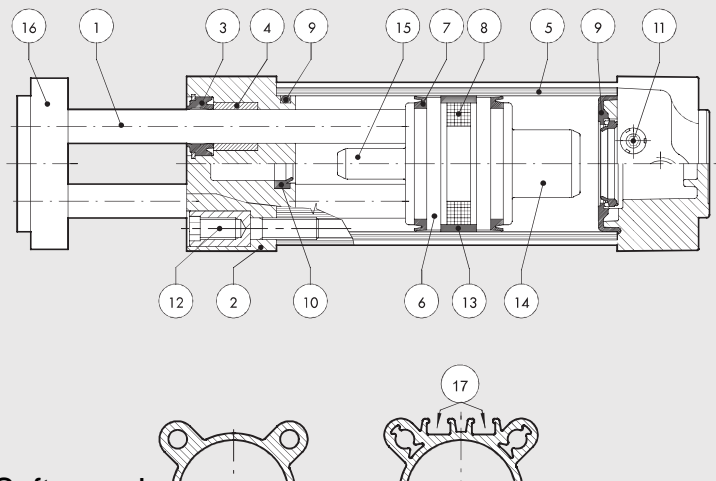
- standard configuration with magnet
- double-acting cushioned
- twinner rods, twinner rods and single through-rod
- rods in C45 steel or stainless steel, thick chromed
- available with STD or series 3 barrel.



TECHNICAL DATA		Ø32	Ø40	Ø50	Ø63	Ø80	Ø100
Max operating pressure	bar				10		
	MPa				1		
	psi				145		
Temperature range	°C				-10 to +80		
Design					Extruded profile		
Fluid					Filtered, unlubricated air. Lubrication, if used, must be continuous.		
Standard strokes †	mm				25 to 500		
Versions					Double-acting cushioned, Double-acting cushioned single through-rod		
Sensor magnet					Available magnetic versions		
Forces generated at 6 bar thrust/retraction	N	434/350	678/597	1060/940	1683/1471	2714/2295	4241/3812
Weights					See cylinder "General technical data" at the beginning of the chapter		
Notes					† Maximum recommended strokes. Higher values can create operating problems		

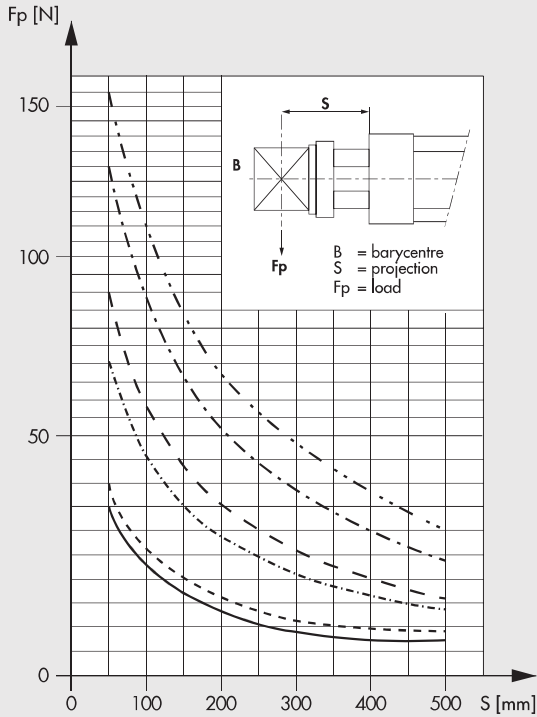
## COMPONENTS

- PISTON ROD: C45 steel or stainless steel, thick chromed
- HEAD: aluminium alloy
- PISTON ROD GASKET: polyurethane
- GUIDE BUSHING: sintered bronze
- BARREL: drawn anodized aluminium alloy
- PISTON: aluminium alloy
- PISTON GASKET: polyurethane
- MAGNET: plastoferrite
- BUFFER+STATIC O-rings: NBR
- CUSHIONING GASKET: front NBR, rear polyurethane
- NEEDLE: OT 58 brass
- SCREWS: Tap Tite for fixing and assembly
- GUIDE RING: special technopolymer
- REAR CUSHIONING CONE: OT58 brass
- FRONT CUSHIONING CONE: aluminium
- FLANGE: zinc-plated steel
- GROVES FOR SQUARE AND OVAL SENSORS

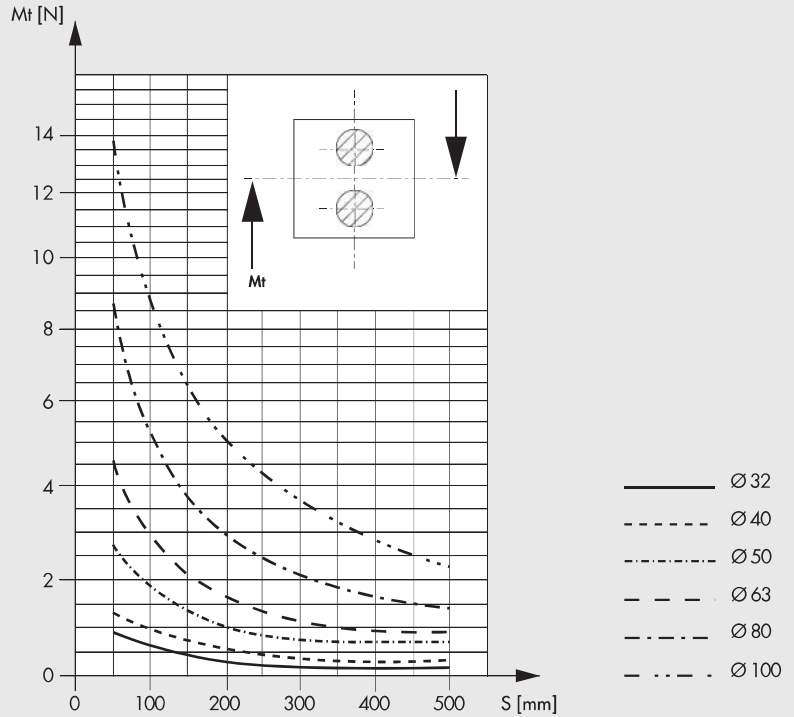


**PERMISSIBLE LOADS**

**FLEXION LOADS**



**TWISTING MOMENTS**

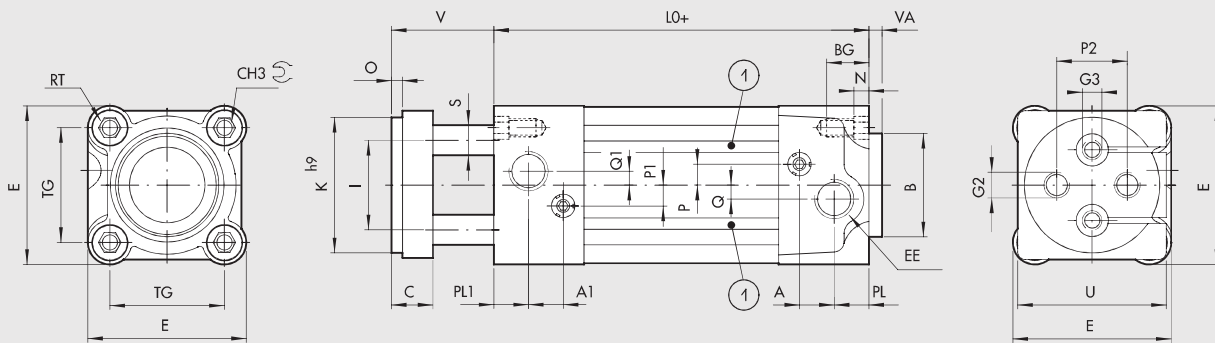


ACTUATORS

TWIN-ROD CYLINDER - SERIES TWNC

**DIMENSIONS**

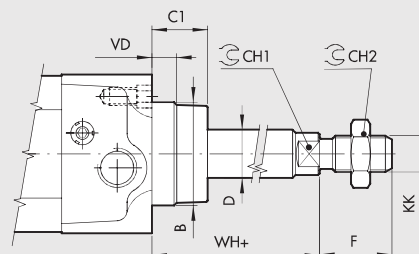
**TWIN ROD VERSION (W140)**



W140

W142

**SINGLE THROUGH-ROD VERSION (W142)**



+ = ADD THE STROKE  
1 = GROVES FOR SQUARE AND OVAL SENSORS (only for series 3)

Ø PL PL1 A A1 B CH1 CH2 CH3 TG VA EE RT E L0 BG N P P1 P2 Q Q1C C1 D F I K<sup>h9</sup> KK S O V VD U G2 G3 WH

## KEY TO CODES VERSION STD

CYL	W 1 4 0 TYPE	0 3 2 BORES	0 0 2 5 STROKE	► X MATERIAL
	<b>W140</b> Double-acting, magnetic, cushioned	032	+ 0025 to 0500 mm	X Piston rod AISI 303
	<b>W142</b> Double-acting, magnetic, cushioned single through-rod	040 050 063 080 100		

- + Maximum recommended strokes. Higher values can create operating problems.
- Letter to be added only for the Stainless steel piston rod version

## KEY TO CODES VERSION 3 SERIES

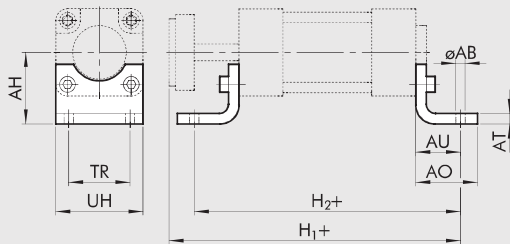
CYL	W 1 4 0 TYPE	3 EXECUTION	3 2 BORE	0 0 2 5 STROKE	► X MATERIAL
	<b>W140</b> Double-acting, magnetic, cushioned	3 Series 3	32	+ 0025 to 0500 mm	X Piston rod AISI 303
	<b>W142</b> Double-acting, magnetic, cushioned single through-rod		40 50 63 80 A1 = 100		

- + Maximum recommended strokes. Higher values can create operating problems.
- Letter to be added only for the Stainless steel piston rod version

## ACCESSORIES: FIXINGS

### FOOT - MODEL A/S

+ = ADD THE STROKE

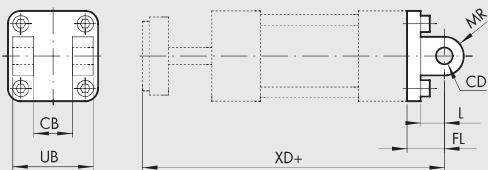


Code	Ø	AB	AH	AO	AT	AU	TR	UH	H <sub>1</sub>	H <sub>2</sub>	Weight [g]
W0950323001	32	7	32	35	4	24	32	45	164	148	76
W0950403001	40	9	36	43	4	28	36	52	168	156	98
W0950503001	50	9	45	47	4	32	45	65	181	170	156
W0950633001	63	9	50	47	6	32	50	75	195	180	246
W0950803001	80	12	63	61	6	41	63	95	222	213	406
W0951003001	100	14	71	66	6	41	75	115	229	220	540

Note: Individually packed with 2 screws  
For fixing the leg to the supporting surface, it is advisable to use a DIN 7984 sunk-headed screw

### FEMALE HINGE - MODEL B

+ = ADD THE STROKE



Code	Ø	CB <sup>H14</sup>	FL	MR	CD <sup>H9</sup>	L	XD	UB <sup>H14</sup>	Weight [g]
W0950322003	32	26	22	11	10	12	162	45	116
W0950402003	40	28	25	13	12	15	165	52	160
W0950502003	50	32	27	13	12	15	176	60	252
W0950632003	63	40	32	17	16	20	195	70	394
W0950802003	80	50	36	17	16	20	217	90	670
W0951002003	100	60	41	21	20	25	229	110	1085

Note: Supplied with 4 screws, 4 washers, 2 snap-rings and 1 pin

### MALE HINGE - MODEL BA

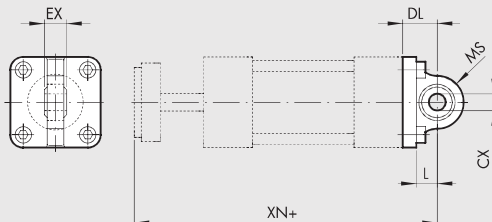
+ = ADD THE STROKE



Code	Ø	EW	FL	MR	CD <sup>H9</sup>	L	XD	Weight [g]
W0950322004	32	26	22	10	10	13	162	94
W0950402004	40	28	25	12	12	16	165	124
W0950502004	50	32	27	12	12	16	176	220

**ARTICULATED MALE HINGE - MODEL BAS**

+ = ADD THE STROKE

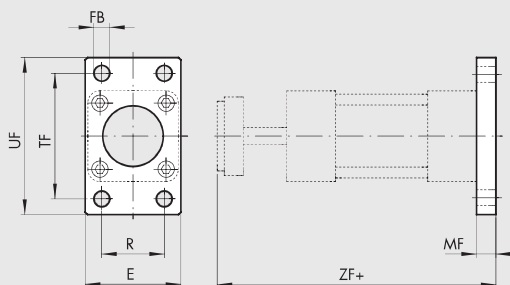


Code	Ø	EX	DL	MF	L	XN	CX <sup>H9</sup>	Weight [g]
W0950322006	32	14	22	16	12	162	10	106
W0950402006	40	16	25	18	15	165	12	142
W0950502006	50	16	27	21	15	176	12	236
W0950632006	63	21	32	23	20	195	16	336
W0950802006	80	21	36	28	20	217	16	572
W0951002006	100	25	41	30	25	229	20	840

Note: Supplied with 4 screws, 4 washers.

**REAR FLANGE - MODEL C**

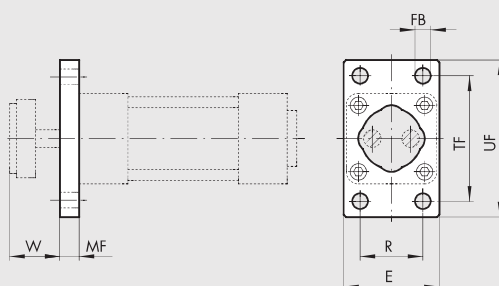
+ = ADD THE STROKE



Code	Ø	TF	UF	E	MF	R	FB	ZF	Weight [g]
W0950322002	32	64	80	50	10	32	7	150	246
W0950402002	40	72	90	55	10	36	9	150	290
W0950502002	50	90	110	65	12	45	9	161	522
W0950632002	63	100	120	75	12	50	9	175	670
W0950802002	80	126	153	95	16	63	12	197	1420
W0951002002	100	150	178	115	16	75	14	204	2040

Note: Supplied with 4 screws.

**FRONT FLANGE - MODEL C/S**



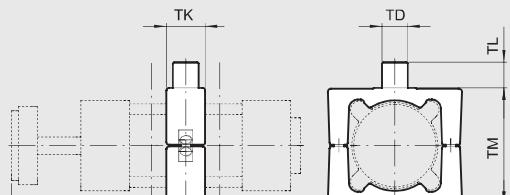
Code	Ø	TF	UF	E	MF	R	FB	W	Weight [g]
W0950323002	32	64	80	50	10	32	7	30	228
W0950403002	40	72	90	55	10	36	9	30	288
W0950503002	50	90	110	65	12	45	9	31	486
W0950633002	63	100	120	75	12	50	9	35	569
W0950803002	80	126	153	95	16	63	12	34	1145
W0951003002	100	150	178	115	16	75	14	34	1760

Note: Supplied with 4 screws.

**INTERMEDIATE HINGE - MODEL EN, FOR SERIES STD**

+ = ADD THE STROKE

+1/2 = ADD HALF THE STROKE

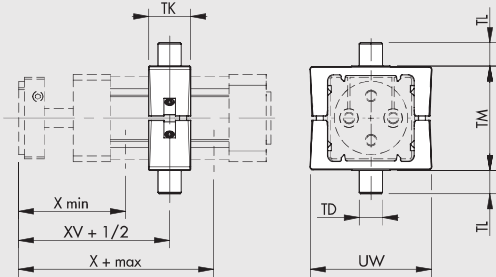


Code	Ø	TM	TL	TD <sub>e9</sub>	TK	UW	X <sub>(min)</sub>	XV	X <sub>(max)</sub>	Weight [g]	T [Nm] ◆
0950322007	32	50	12	12	22	65	79	91	103	282	4
0950402007	40	63	16	16	28	75	82	90	98	582	10
0950502007	50	75	16	16	32	95	91.5	97.5	103.5	870	15
0950632007	63	90	20	20	35	105	95.5	104.5	113.5	1192	20
0950802007	80	110	20	20	40	130	108	115.5	123	1950	20
0951002007	100	132	25	25	45	145	110.5	119	127.5	2690	25

Note: Supplied with 4 screws, 2 pin

### INTERMEDIATE HINGE - MODEL EN, FOR SERIES 3

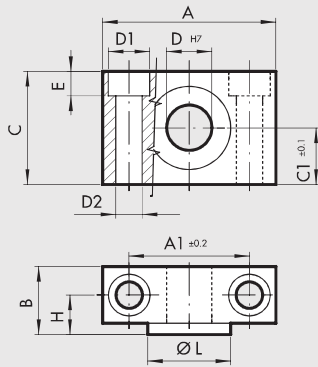
+ = ADD THE STROKE  
+ 1/2 = ADD HALF THE STROKE



Code	Ø	X <sub>(min)</sub>	XV	X <sub>(max)</sub>	TM	TL	TD <sub>e.9</sub>	TK	UW	Weight [g]	T [Nm] ♦
0950322207	32	79	91	103	50	12	12	22	65	212	3
0950402207	40	82	90	98	63	16	16	28	75	440	8
0950502207	50	91.5	97.5	103.5	75	16	16	28	95	644	15
0950632207	63	95.5	104.5	113.5	90	20	20	36	105	1080	15
0950802207	80	108	115.5	123	110	20	20	36	130	1654	15
0951002207	100	110.5	119	127.5	132	25	25	45	145	2550	20

Note: Supplied with 4 grub screws, 2 pins  
♦ Recommended tightening torque of grub screws

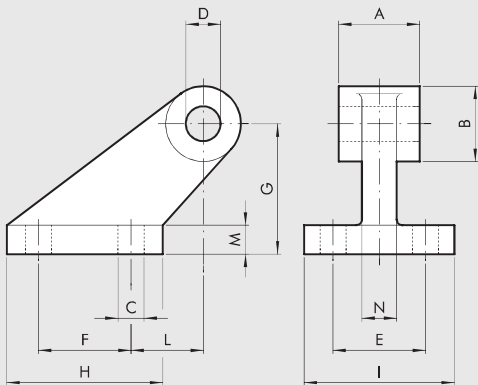
### COUNTER-HINGE FOR MODEL EN - MODEL EL



Code	Ø	A	A <sub>1</sub>	B	C	C <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D	E	H	ØL	Weight [g]
W0950322009	32	46	32	18	30	15	11	7	12	6.5	10.5	22	162
W0950402009	40	55	36	21	36	18	15	9	16	8.5	12	28	278
W0950402009	50	55	36	21	36	18	15	9	16	8.5	12	28	278
W0950632009	63	65	42	23	40	20	18	11	20	10.5	13	35	414
W0950632009	80	65	42	23	40	20	18	11	20	10.5	13	35	414
W0951002009	100	75	50	28.5	50	25	20	13	25	12.5	16	40	715

Note: 2-pieces pack with 4 screws

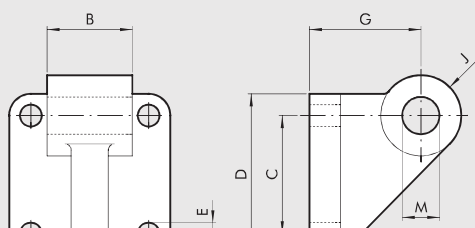
### COUNTER-HINGE CETOP FOR MODEL B - MODEL GL



Code	Ø	A	B	C	D	E	F	G	H	I	L	M	N	Weight [g]
W0950322008	32	26	19	7	10	25	20	32	37	41	18	8	10	96
W0950402008	40	28	26	9	12	32	32	45	54	52	25	10	12	216
W0950502008	50	32	26	9	12	32	32	45	54	52	25	10	12	212
W0950632008	63	40	33	11	16	40	50	63	75	63	32	12	15	440
W0950802008	80	50	33	11	16	40	50	63	75	63	32	12	15	464
W0951002008	100	60	44	14	20	50	70	90	103	80	40	16	22	985

Note: Supplied with 4 screws, 4 washers

### COUNTER-HINGE FOR MODEL B - MODEL GS

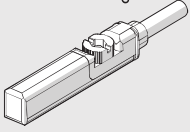


Code	Ø	B	C	D	E	G	J	L	M	N	Weight [g]
W0950322108	32	26	32.5	45	7	32	11	10	10	10	106
W0950402108	40	28	38	52	7	36	13	10	12	12	138
W0950502108	50	32	46.5	65	9	45	13	12	12	12	252
W0950632108	63	40	56.5	75	9	50	17	12	16	15	350
W0950802108	80	50	72	95	11	63	17	16	16	15	655
W0951002108	100	60	89	115	11	73	21	20	20	22	980

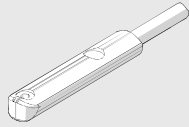
Note: Supplied with 4 screws, 4 washers

**RETRACTABLE SENSOR**

**A** SENSOR, SQUARE TYPE  
Latest generation,  
secure fixing



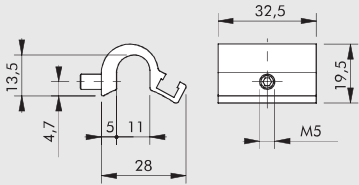
**B** SENSOR, OVAL TYPE  
Traditional



For codes and technical data, see **chapter A6**.

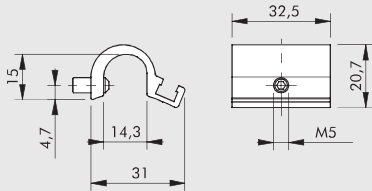
**D** SENSOR SUPPORT BRACKETS FOR SENSORS SQUARE TYPE AND OVAL TYPE

Ø 32 to 40



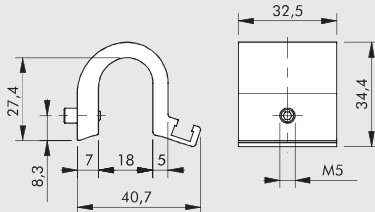
Code	Description
W0950001711	Bracket D.32-40

Ø 50 to 63



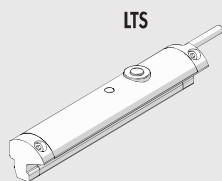
Code	Description
W0950001712	Bracket D.50-63

Ø 80 to 100



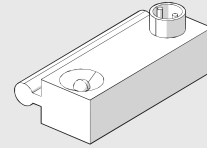
Code	Description
W0950001713	Bracket D.80-100-125

**G** POSITION SENSOR



For technical data and usage strokes see **chapter A6**.

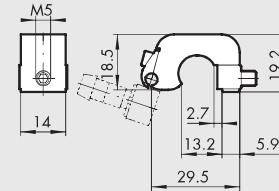
**C** SENSOR SERIES DSM



Can be used on ISO 15552 cylinders in the STD series and series 3.  
For codes and technical data, see **chapter A6**.

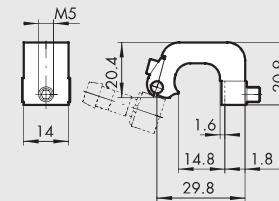
**E** SENSOR SUPPORT BRACKETS FOR SENSORS DSM

Ø 32 to 40



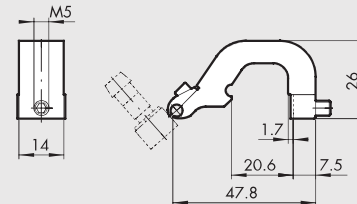
Code	Description
W0950000711	Bracket D.32-40 DST 80

Ø 50 to 63



Code	Description
W0950000712	Bracket D.50-63 DST 81

Ø 80 to 100

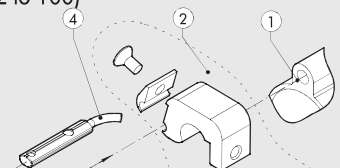


Code	Description
W0950000713	Bracket D.80-100-125 DST 82

**F** ADAPTER FOR OVAL TYPE RETRACTABLE SENSORS

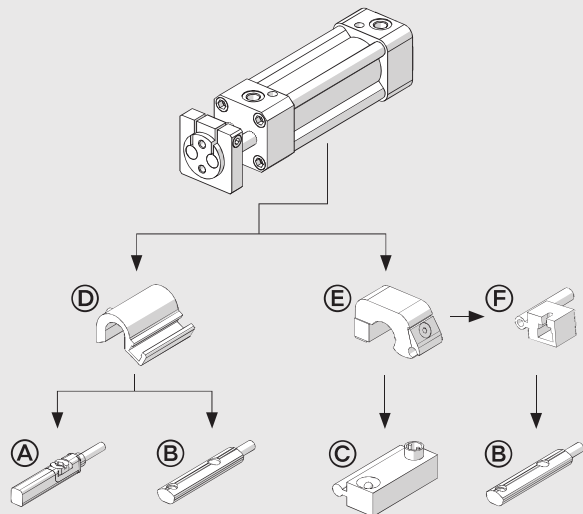
**ASSEMBLY DIAGRAM**

- 1 Twin-rod cylinder with serie STD or serie 3 barrel
- 2 Sensor bracket mod. DST (Ø 32 to 100)
- 3 Adaptor
- 4 Retractable sensor "oval type"

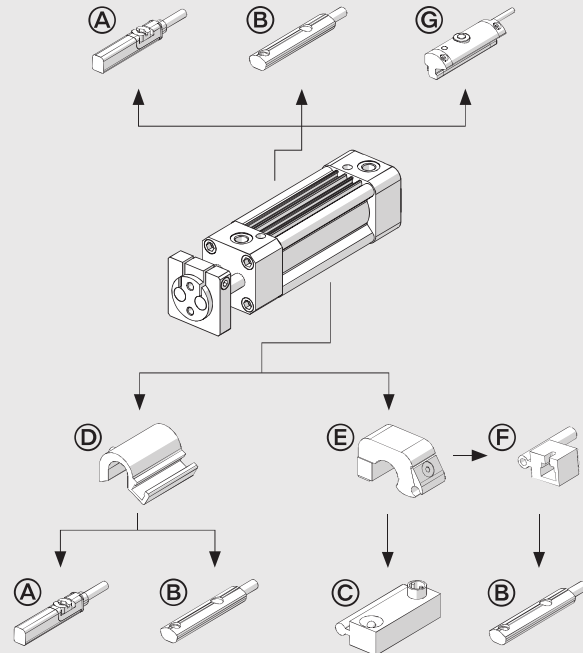


USE SENSORS

SERIES STD



SERIES 3



NOTES

NOTES

ACTUATORS



# ISO 15552 CYLINDER Ø 160-200 WITH ROUND BARREL

Cylinders made to ISO 15552 available in various versions and with a wide range of accessories:

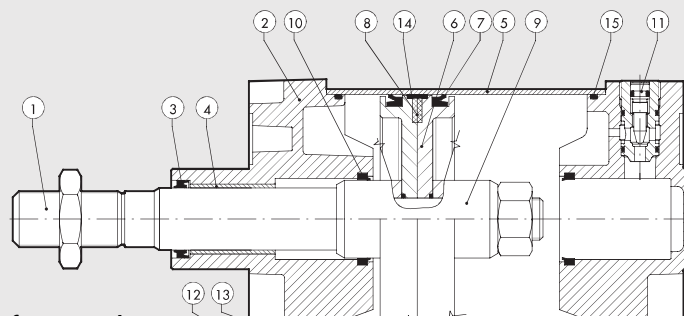
- configuration with or without magnet
- double-acting – single- or through-rod
- wide choice of NBR and FKM/FPM (for high temperature)
- piston rod scrapers for use in hostile environments available
- available with mounted intermediate hinge
- special configurations on request



TECHNICAL DATA		Ø160	Ø200
Max operating pressure	bar		10
	MPa		1
	psi		145
Temperature range	NBR	-20 to +80	
	FKM/FPM	-10 to +150	
	Other piston rod gasket	See next page	
Design		Round barrel with tie rods	
Fluid		Unlubricated air. Lubrication, if used, must be continuous	
Standard strokes	mm	25-50-75-80-100-125-150-200-250-300-350-400-500-600-700-800-900-1000	
Versions		Double-acting, Cushioned or non-cushioned, Single piston rod or cushioned through piston rod, High-temperature, No stick-slip	
Sensor magnet		Available magnetic and non-magnetic versions.	
Forces generated at 6 bar thrust/retraction		See cylinder "General technical data" at the beginning of the chapter	
Weights		See cylinder "General technical data" at the beginning of the chapter	
Notes		For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air.	

## COMPONENTS

- PISTON ROD: C45 steel or stainless steel, thick chromed
- HEAD: die cast aluminium
- PISTON ROD GASKET: NBR, FKM/FPM, FKM/FPM with metal scraper
- GUIDE BUSHING: sintered bronze
- BARREL: drawn anodized aluminium alloy
- PISTON: aluminium
- PISTON GASKET: NBR or FKM/FPM
- MAGNET: plastroferrite
- CUSHIONING CAP: aluminium
- CUSHIONING GASKET: polyurethane or FKM/FPM
- CUSHIONING NEEDLE: OT 58 with needle out movement safety system even when fully open

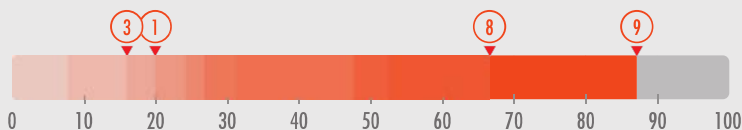


OVERVIEW OF SEALS AND SCRAPERS

	Code identifier	Key feature	Applications	Gasket material	Temperature range
①	.....	General use.	Standard applications, also with humidity.	NBR	-20 to + 80 °C
③	....V	High temperatures - chemicals.	Industrial applications with chemical agents and/or at high temperatures.	FPM/FKM	-10 to + 150 °C
⑧	....R	Dirt and low temperatures. Reference name: HARD PU	Medium-Heavy duty applications, with presence of dirt and low temperatures, such as in agriculture or in transport sector.	Piston rod seal made of hard polyurethane, the other seals are made of NBR.	-20 to + 80 °C
⑨	....M	Dirt and high temperature. Reference name: METAL	Heavy duty applications, in presence of hard dirt and high temperatures, like in cement plants, foundries or in transport sector.	Metal scraper, the other seals are made of FKM/FPM.	-10 to + 150 °C

Anti-contamination Effect Indicators

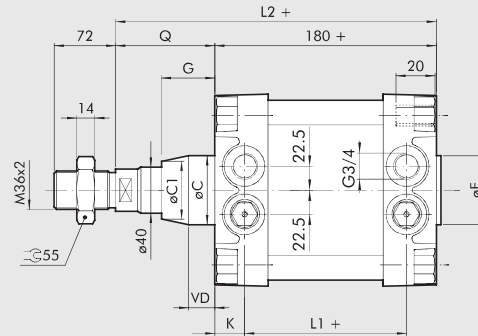
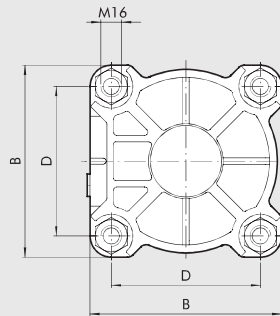
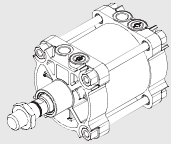
An index of protection against the dirt that settles and adheres to the piston rod is provided for each version, on a 1 to 100 scale.



NOTES

## DIMENSIONS OF STANDARD VERSION

+ = ADD THE STROKE

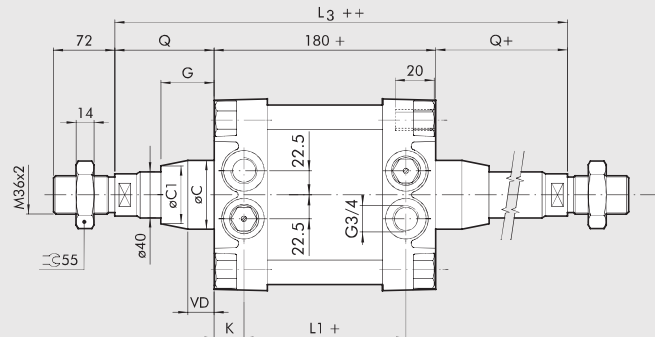
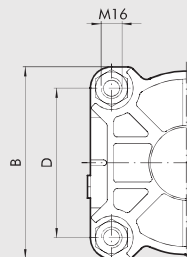
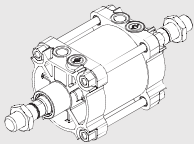


Ø	B	øC	øC1	øE	D	G	L <sub>1</sub>	L <sub>2</sub>	Q	VD	K
160	180	65	-	65	140	50	124	260	80	-	28
200	220	75	~ 65	75	175	60	122	275	95	~ 15	29

## DIMENSIONS OF THROUGH-ROD VERSION

+ = ADD THE STROKE

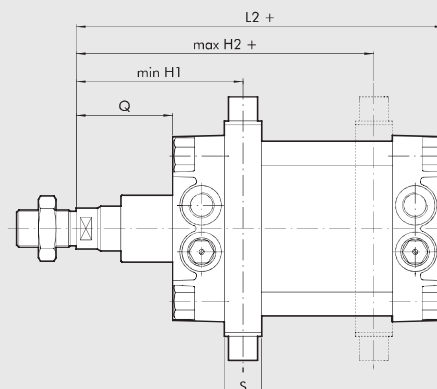
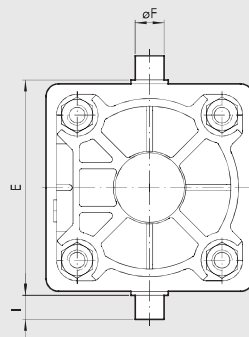
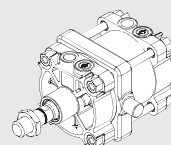
++ = ADD TWICE THE STROKE



Ø	B	øC	øC1	D	G	L <sub>1</sub>	L <sub>3</sub>	Q	VD	K
160	180	65	-	140	50	124	340	80	-	28
200	220	75	~ 65	175	60	122	370	95	~ 15	29

## DIMENSIONS OF VERSION WITH INTERMEDIATE HINGE

+ = ADD THE STROKE



**KEY TO CODES FOR ROUND BARREL**

CIL	W 1 2 1 TYPE	1 6 0 DIAMETER-EXECUTION	0 0 5 0 STROKE	▼ R SPECIAL SCRAPER
	W120 Double-acting, cushioned, non magnetic	160 160 200 200	+ 0025 to 2800 mm	◆ R Hard PU ■ M Metal
	W121 Double-acting, cushioned	XA3 160 stainless steel piston rod		
	W122 Double-acting, cushioned, through-rod	XA4 200 stainless steel piston rod		
	W123 Double-acting, cushioned, through-rod, non magnetic	VA3 160 FKM/FPM gasket, stainless steel piston rod		
	W124 Double-acting, non-cushioned	VA4 200 FKM/FPM gasket, stainless steel piston rod KA3 160 FKM/FPM gasket, C45 piston rod KA4 200 FKM/FPM gasket, C45 piston rod ● GA3 160 No stick-slip ● GA4 200 No stick-slip		

- + Maximum recommended strokes. Higher values can create operating problems.
- For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only.
- ▼ Letter to be added only for versions with a special scraper.
- ◆ To be matched with NBR execution: 160, 200, XA3, XA4
- To be matched with FKM/FPM execution: VA3, VA4, KA3, KA4

**KEY TO CODES FOR CONFIGURATION WITH INTERMEDIATE HINGE**

CIL	W 1 2 1 TYPE	A A 3 DIAMETER-EXECUTION	0 0 5 0 STROKE	0 2 0 0 EXECUTION	▼ R SPECIAL SCRAPER
	W120 Double-acting, cushioned, non magnetic	AA3 160 + intermediate hinge AA4 200 + intermediate hinge	+ 0025 to 2800 mm	H1 dimension (hinge position, see drawing on the previous page)	R Hard PU
	W121 Double-acting, cushioned				
	W122 Double-acting, cushioned, through-rod				
	W123 Double-acting, cushioned, through-rod, non magnetic				
	W124 Double-acting, non-cushioned				

- + Maximum recommended strokes. Higher values can create operating problems.
- ▼ Letter to be added only for versions with a special scraper.
- Note: Type M scraper only on request.
- For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only. For coding please contact our sales support department.

**VERSION WITH SHAPED BARREL**

An alternative to the round barrel version is a version with a shaped barrel. The technical data, components and dimensions are the same as for the round barrel version.

Note: Type with intermediate hinge not available.



**KEY TO CODES FOR SHAPED BARREL**

CYL	1 2 1 TYPE	1 6 0 DIAMETER-EXECUTION	0 0 5 0 STROKE	A MATERIAL	N GASKETS
	120 Double-acting, cushioned, non-magnetic	160 160 200 200	+ 0025 to 2800 mm	A C45 chromed, piston rod Z Stainless steel chromed, piston rod	N NBR gaskets V FKM/FPM gaskets
	121 Double-acting, cushioned	SA3 160 non magnetic			
	122 Double-acting, cushioned, through-rod	SA4 200 non magnetic			

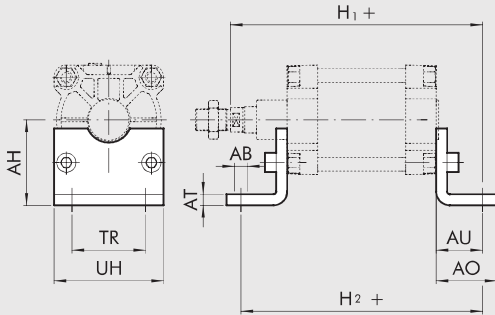
ACTUATORS

ISO 15552 CYLINDER Ø 160-200 WITH ROUND BARREL

**ACCESSORIES FOR ISO 15552 CYLINDERS Ø 160-200:  
FIXINGS**

**FOOT - MODEL A**

+ = ADD THE STROKE

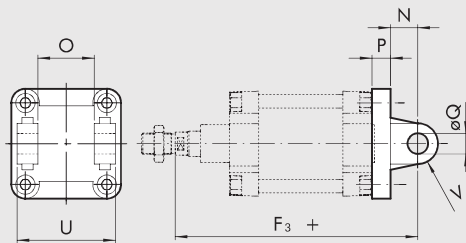


Code	Ø	AB	AH	AO	AT	AU	H <sub>1</sub>	H <sub>2</sub>	TR	UH	Weight [g]
W0951602001	160	18	115	80	10	60	319	300	115	180	2400
W0952002001	200	22	135	100	12	70	345	320	135	220	4000

Note: Individually packed with 2 screws

**FEMALE HINGE - MODEL B**

+ = ADD THE STROKE

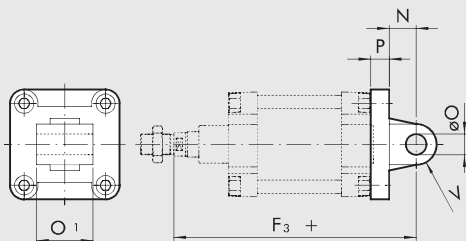


Code	Ø	U	O	øQ	P	N	F <sub>3</sub>	V	Weight [g]
W0951602003	160	170	90	30	20	35	314	25	3300
W0952002003	200	170	90	30	25	35	335	25	4300

Note: Supplied complete with 4 screws, 2 snap rings and 1 pin

**MALE HINGE - MODEL BA**

+ = ADD THE STROKE

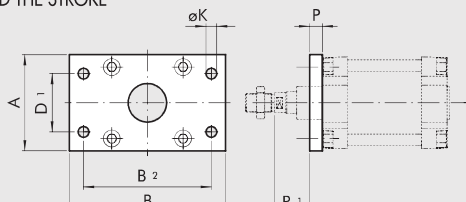


Code	Ø	O <sub>1</sub>	øO	P	N	F <sub>3</sub>	V	Weight [g]
W0951602004	160	90	30	20	35	314	25	2150
W0952002004	200	90	30	25	35	335	25	3550

Note: Supplied complete with 4 screws

**FLANGE - MODEL C (FRONT AND REAR)**

+ = ADD THE STROKE

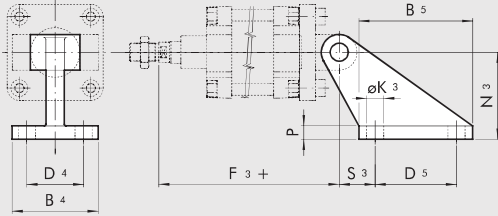


Code	Ø	A	B	B <sub>2</sub>	D <sub>1</sub>	øK	R <sub>1</sub>	P	F <sub>1</sub>	Weight [g]
W0951602002	160	180	270	230	115	18	59	20	279	6900
W0952002002	200	225	312	270	135	22	70	25	300	12800

Note: Individually packed with 4 screws

**CETOP COUNTER-HINGE - MODEL GL**

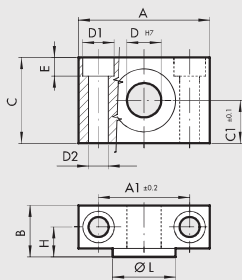
+ = ADD THE STROKE



Code	Ø	B <sub>4</sub>	B <sub>5</sub>	D <sub>4</sub>	D <sub>5</sub>	N <sub>2</sub>	N <sub>3</sub>	S <sub>3</sub>	øK <sub>3</sub>	P	F <sub>3</sub>	Weight [g]
W0951602008	160	110	154	63	110	55	140	50	18	20	314	2300
W0951602008	200	110	154	63	110	60	140	50	18	20	335	2300

Note: Supplied complete with 4 screws, 4 washers

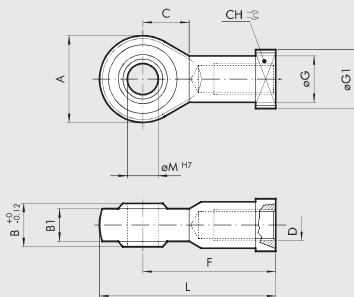
**COUNTER-HINGE MODEL EL**



Code	Ø	A	A <sub>1</sub>	B	C	C <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D	E	H	øL	Weight [g]
W0951602009	160	92	60	40	60	30	25	17	32	16.5	22.5	48	2740
W0951602009	200	92	60	40	60	30	25	17	32	16.5	22.5	48	2740

Note: 2-pieces pack with 4 screws

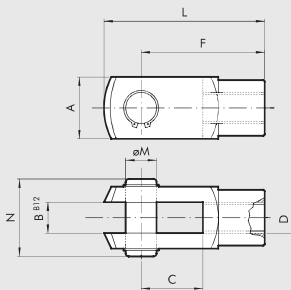
**ROD EYE - MODEL GA-M**



Code	Ø	øM	C	B <sub>1</sub>	B	A	L	F	D	øG	CH	øG <sub>1</sub>	Weight [g]
W0952002025	160	35	41	28	43	80	165	125	M36x2	46	50	58	1645
W0952002025	200	35	41	28	43	80	165	125	M36x2	46	50	58	1645

Note: Individually packed

**FORK - MODEL GK-M**



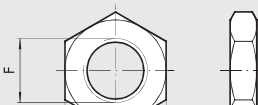
Code	Ø	øM	C	B	A	L	F	D	N	Weight [g]
W0951602020	160	35	72	35	70	188	144	M36x2	84	3850
W0951602020	200	35	72	35	70	188	144	M36x2	84	3850

Note: Individually packed

**ROD NUT - MODEL S**

Code	Ø	F	H	CH	Weight [g]
W0951602010	160	M36x2	14	55	170
W0951602010	200	M36x2	14	55	170

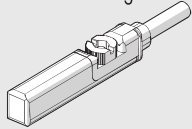
Note: Individually packed



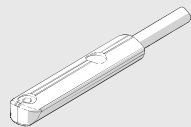
**ACCESSORIES FOR ISO 15552 CYLINDERS Ø 160-200:  
MAGNETIC SENSORS**

**RETRACTABLE SENSOR**

**A** **SENSOR, SQUARE TYPE**  
Latest generation,  
secure fixing



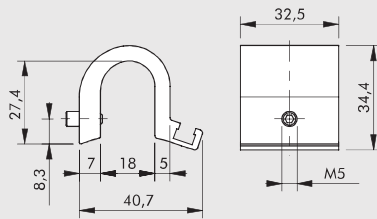
**B** **SENSOR, OVAL TYPE**  
Traditional



For codes and technical data, see **chapter A6**.

**F** **SENSOR SUPPORT BRACKETS FOR SENSORS SQUARE TYPE AND OVAL TYPE**

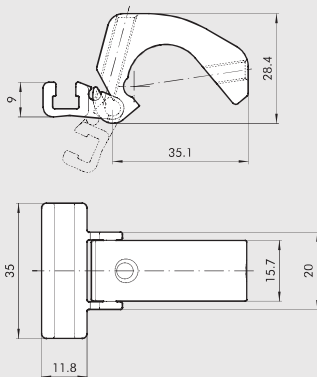
Ø 160



Code	Description
W0950001713	Bracket D.80-100-125

**G** **SENSOR SUPPORT BRACKETS FOR SENSORS SQUARE TYPE AND OVAL TYPE**

Ø 160-200

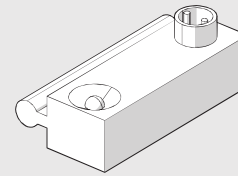


Code	Description
W0950001100	Sensor bracket

Note: Individually packed

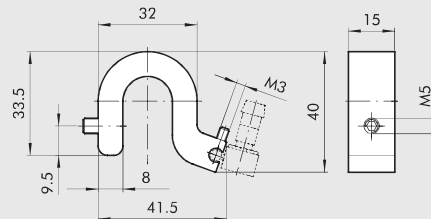
**NOTES**

**C** **SENSOR SERIES DSM**



For codes and technical data, see **chapter A6**.

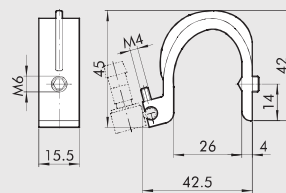
**D** **SENSOR SUPPORT BRACKETS FOR SENSORS DSM (FOR ROUND BARREL VERSION)**



Code	Description
0951602093	Supporto sensore 160-200

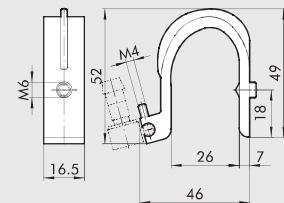
**E** **SENSOR SUPPORT BRACKETS FOR SENSORS DSM (FOR SHAPED BARREL VERSION)**

Ø 160



Code	Description
W0950000715	Bracket ST160

Ø 200

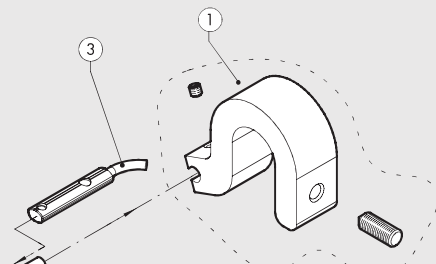


Code	Description
W0950000716	Bracket ST200

**H** **ADAPTER FOR OVAL TYPE RETRACTABLE SENSORS**

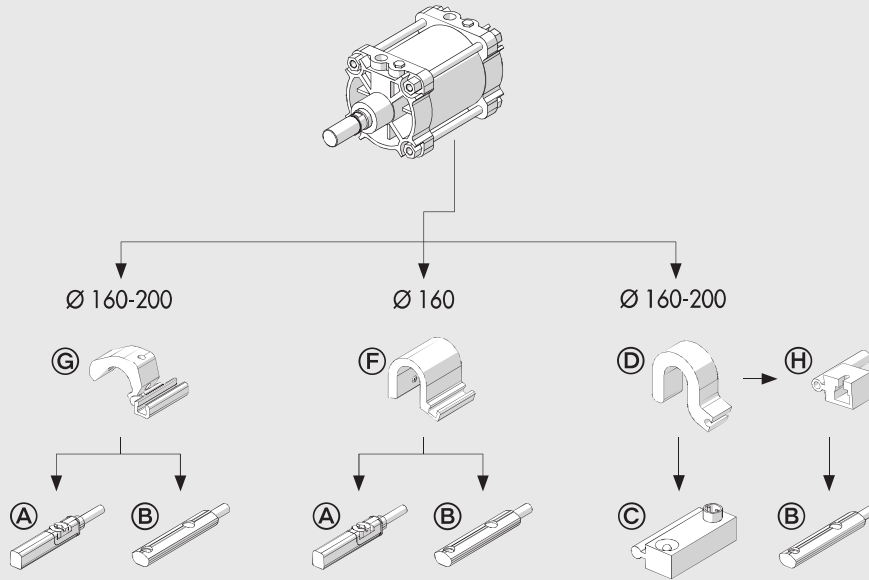
**ASSEMBLY DIAGRAM**

- 1 Sensor support bracket **D** or **E**
- 2 Adaptor
- 3 Retractable sensor "oval type"

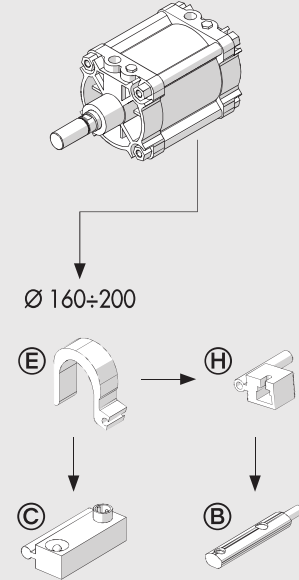


USE SENSORS

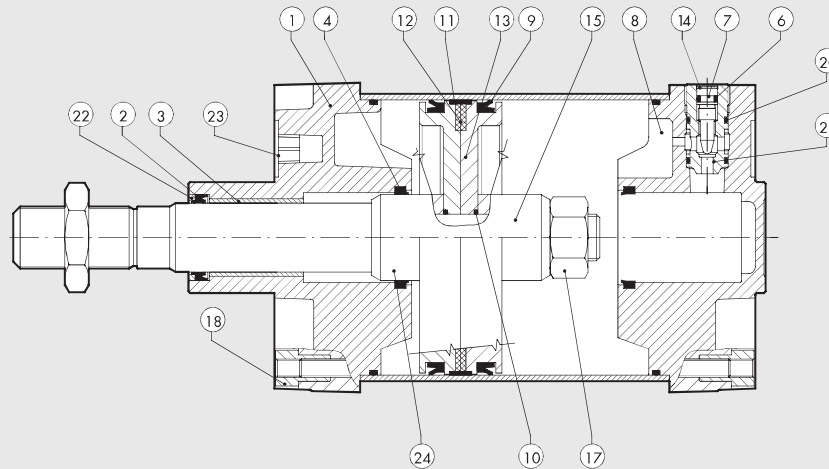
ROUND BARREL



SHAPED BARREL



**CYLINDERS ISO 15552 Ø 160-200: SPARE PARTS**



Code	Bores	Type	Parts
W095_2101	160 - 200	Complete set of gaskets	2-4-5-6-9-10-20-22
W0951602165	160 - 200	NBR piston rod gasket kit + seeger	2
W0951602166	160 - 200	FKM/FPM piston rod gasket kit + seeger	2
W095_2102	160 - 200	Complete set of (high temperature) FKM/FPM gaskets	2-4-5-6-9-10-20-22
W095_0104	160 - 200	Complete front head kit	1-2-3-4-5-6-7-14-18-20-21-22-23
W095_0122	160 - 200	Complete R front head kit	1-2-3-4-5-6-7-14-18-20-21-22-23
W095_0120	160 - 200	Complete M front head kit	1-2-3-4-5-6-7-14-18-20-21-22-23
W095_0105	160 - 200	Complete rear head kit	4-5-6-7-8-14-18-20-21-23
W095_2115	160 - 200	Complete magnetic piston kit	9-10-11-12-13-15-17-24
W095_2118	160 - 200	Complete non-magnetic piston kit	9-10-11-13-15-17-24
W095_2120	160 - 200	Complete head A + P + non-magnetic piston	1-2-3-4-5-6-7-8-9-10-11-13-14-15-17-18-20-21-22-23-24
W095_2119	160 - 200	Complete head A + P + magnetic piston	1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-17-18-20-21-22-23-24
W095_2300	160 - 200	Magnet	12



Cylinders made to ISO 15552 available in various versions and with a wide range of accessories:

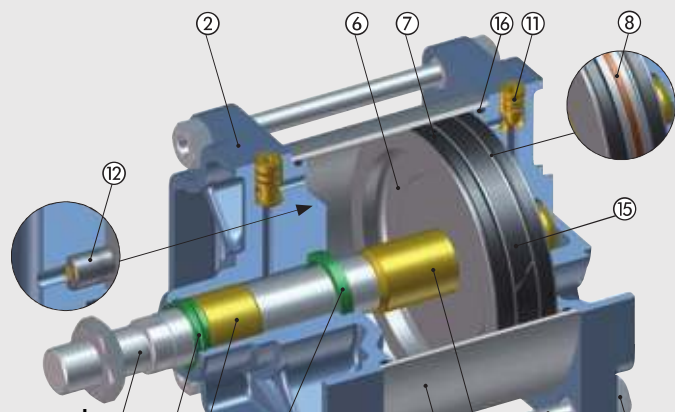
- double-acting – single-or through-rod
- with or without cushioning
- configuration with or without magnet
- with NBR gaskets, and polyurethane gasket for the piston rod only
- with FKM/FPM gaskets (high temperature versions)
- available with mounted intermediate hinge
- special configurations on request



TECHNICAL DATA		Ø250	Ø320
Max operating pressure	bar	10	
	MPa	1	
	psi	145	
Temperature range	NBR °C	-20 to +80	
	FKM/FPM °C	-10 to +150	
Design		Round barrel with tie rods	
Fluid		Unlubricated air. Lubrication, if used, must be continuous	
Standard strokes	mm	1 to 2000	
Versions		Double-acting, Cushioned or non-cushioned, Single piston rod or cushioned through piston rod, High-temperature, No stick-slip Available magnetic and non-magnetic versions.	
Sensor magnet		0.2	0.15
Inrush pressure	bar	See cylinder "General technical data" at the beginning of the chapter	
Forces generated at 6 bar thrust/retraction		See cylinder "General technical data" at the beginning of the chapter	
Weights		See cylinder "General technical data" at the beginning of the chapter	
Notes		<b>For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air.</b>	

## COMPONENTS

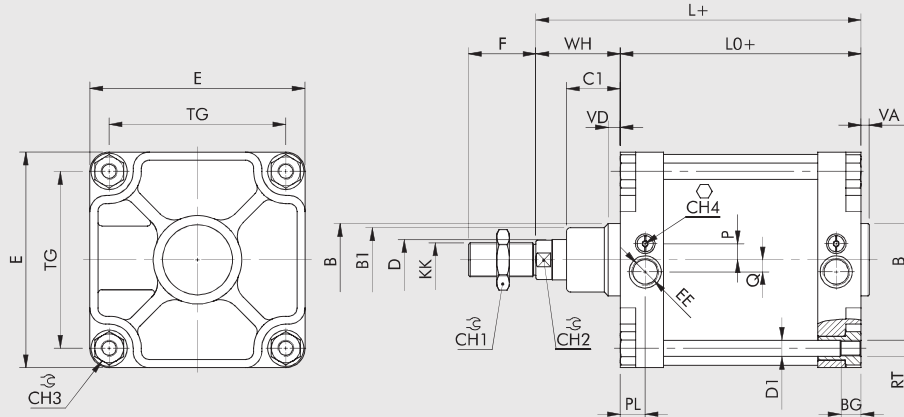
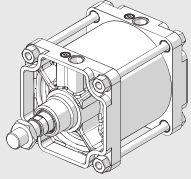
- PISTON ROD: High thickness C45 chrome steel or stainless steel (AISI 304)
- HEAD: fused aluminum painted
- PISTON ROD GASKET: polyurethane or FKM/FPM
- GUIDE BUSHING: sintered bronze
- BARREL: anodized aluminium
- PISTON: aluminium
- PISTON GASKET: NBR or FKM/FPM
- MAGNET: plastoferrite
- CUSHIONING CAP: aluminium
- CUSHIONING GASKET: NBR or FKM/FPM
- CUSHIONING NEEDLE: OT 58
- ONE-WAY VALVE for Ø 320 only: to speed up restart from end of stroke, bypassing the cushioning gasket
- SCREWS: zinc-plated steel



**DIMENSIONS**

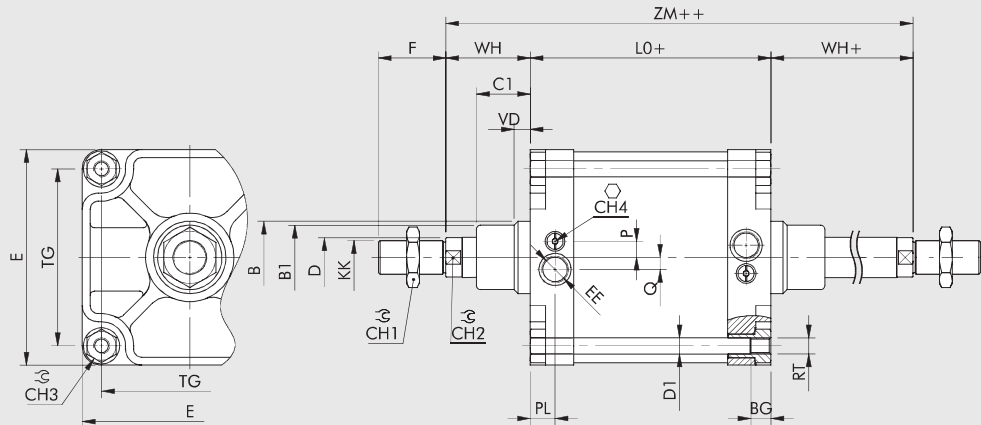
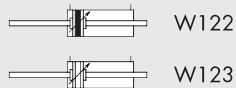
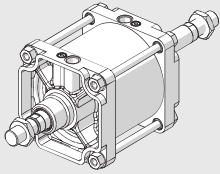
**STANDARD VERSION**

+ = ADD THE STROKE



**THROUGH-ROD VERSION**

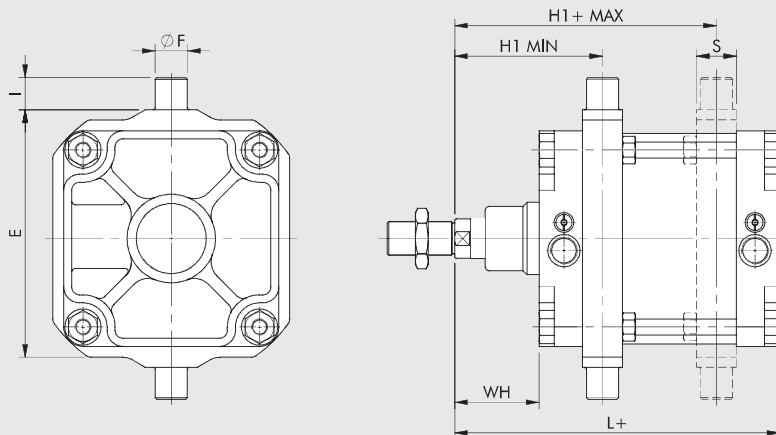
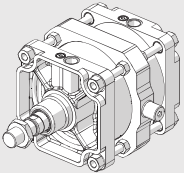
+ = ADD THE STROKE  
++ = ADD TWICE THE STROKE



Ø	PL	VD	B	B <sub>1</sub>	WH	C <sub>1</sub>	CH <sub>1</sub>	CH <sub>2</sub>	CH <sub>3</sub>	CH <sub>4</sub>	KK	D	D <sub>1</sub>	TG	VA	F	EE	RT	E	L	L <sub>0</sub>	ZM	BG	P	Q
250	31	20	90	80	105	67	65	46	36	6	M42x2	50	20	220	10	84	G1	M20	268	305	200	410	25	15	20
320	31	20	110	100	120	82	75	55	46	6	M48x2	63	25	270	10	96	G1	M24	340	340	220	460	28	36	-

**DIMENSIONS OF VERSION WITH INTERMEDIATE HINGE**

+ = ADD THE STROKE



## KEY TO CODES

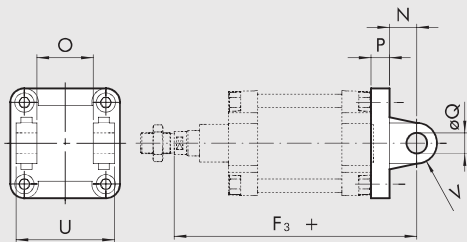
CIL	W 1 2 1 TYPE	2 5 0 DIAMETER-EXECUTION	0 3 0 0 STROKE	0 2 0 0 EXECUTION
W120	Double-acting, cushioned, non magnetic	250 250 320 320	0001 to 2000 mm	Specify H1 value ONLY for version with intermediate hinge
W121	Double-acting, cushioned	XA5 250 stainless steel piston rod and nut		
W122	Double-acting, cushioned, through-rod	XA6 320 stainless steel piston rod and nut		
W123	Double-acting, cushioned, through-rod, non magnetic	KA5 250 FKM/FPM gasket, C45 piston rod and nut		
W124	Double-acting, non-cushioned	VA5 250 FKM/FPM gasket, stainless steel piston rod and nut		
		AA5 250 + intermediate hinge AA6 320 + intermediate hinge GA5 250 no stick-slip GA6 320 no stick-slip		

- For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only.

## ACCESSORIES: FIXINGS

### FEMALE HINGE - MODEL B

+ = ADD THE STROKE

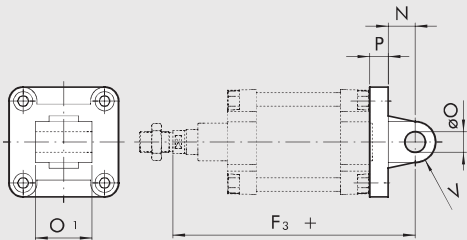


Code	Ø	U	O	ØQ	P	N	F <sub>3</sub>	V	Weight [g]
W0952502003	250	200	110	40	25	45	375	40	7600
W0953202003	320	220	120	45	30	50	420	45	13200

Note: Supplied complete with 4 screws, 2 snap rings and 1 pin

### MALE HINGE - MODEL BA

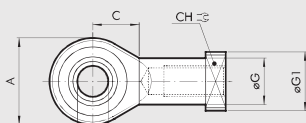
+ = ADD THE STROKE



Code	Ø	O <sub>1</sub>	ØO	P	N	F <sub>3</sub>	V	Weight [g]
W0952502004	250	110	40	25	45	375	40	5910
W0953202004	320	120	45	30	50	420	45	10900

Note: Supplied complete with 4 screws

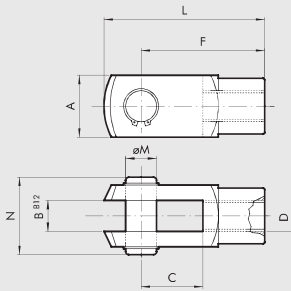
### ROD EYE - MODEL GA-M



Code	Ø	øM	C	B <sub>1</sub>	B	A	L	F	D	øG	CH	øG <sub>1</sub>	Weight [g]
W0952502025	250	40	45	33	49	102	193	142	M42x2	56	55	69	2800
W0953202025	320	50	60	45	60	117	218.5	160	M48x2	66	65	75	5000

Note: Individually packed

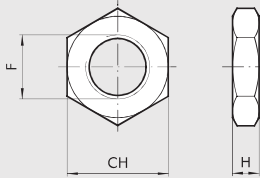
**FORK - MODEL GK-M**



Code	Ø	øM	C	B	A	L	F	D	N	Weight [g]
W0952502020	250	42	84	42	85	232	168	M42x2	102	6400
W0953202020	320	50	96	50	95	265	192	M48x2	113	9600

Note: individually packed with 2 seeger and 1 pin

**ROD NUT - MODEL S**



**ZINC-PLATED STEEL**

Code	Ø	F	H	CH	Weight [g]
W0952502010	250	M42x2	16	65	285
W0953202010	320	M48x2	18	75	420

Note: Individually packed

**STAINLESS STEEL (AISI 304)**

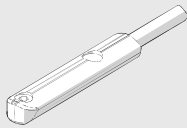
Code	Ø	F	H	CH	Weight [g]
W095XA52010	250	M42x2	16	65	285
W095XA62010	320	M48x2	18	75	420

Note: Individually packed

**ACCESSORIES: MAGNETIC SENSORS**

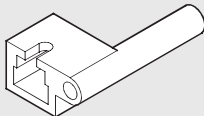
**RETRACTABLE SENSOR**

SENSOR, OVAL TYPE  
Traditional



For codes and technical data, see **chapter A6**.

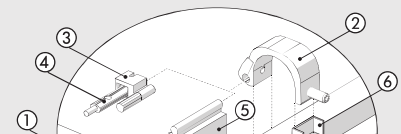
**ADAPTOR FOR RETRACTABLE SENSOR**



Code	Description
W0950001001	Adaptor DSS005 for DST/ST brackets

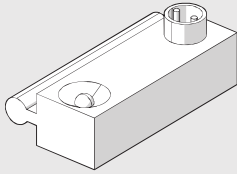
**ASSEMBLY DIAGRAM**

- ISO 15552 cylinder, round pipe with tie rods
- Sensor bracket mod. ST



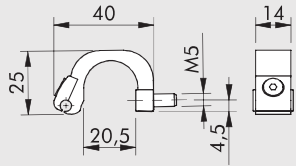
## SENSOR SERIES DSM

For codes and technical data, see chapter A6.



## SENSOR SUPPORT BRACKET

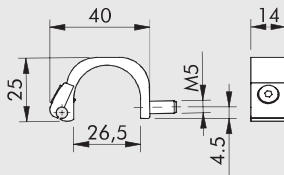
Ø 250



**Code**  
W0950000722

**Description**  
Bracket ST250

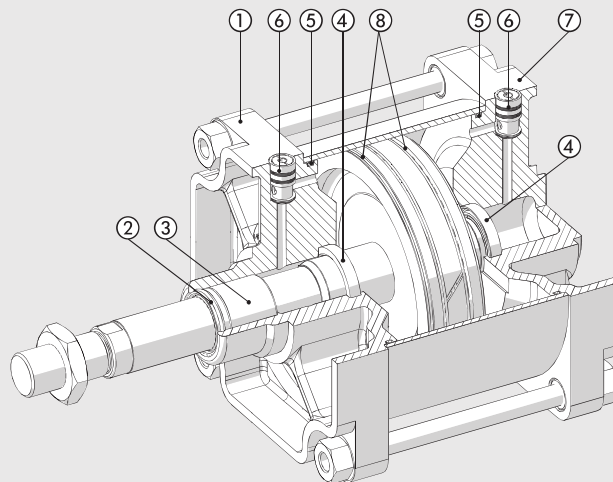
Ø 320



**Code**  
W0950000723

**Description**  
Bracket ST320

## SPARE PARTS



Code	Bores	Type	Parts
W095...2101	250 - 320	Complete set of gaskets	2-4-5-8
W0952502102	250	Complete set of (high temperature) FKM/FPM gaskets	2-4-5-8
W095...0104	250 - 320	Complete front head kit	1-2-3-4-5-6
W095...0105	250 - 320	Complete rear head kit	4-5-6-7