

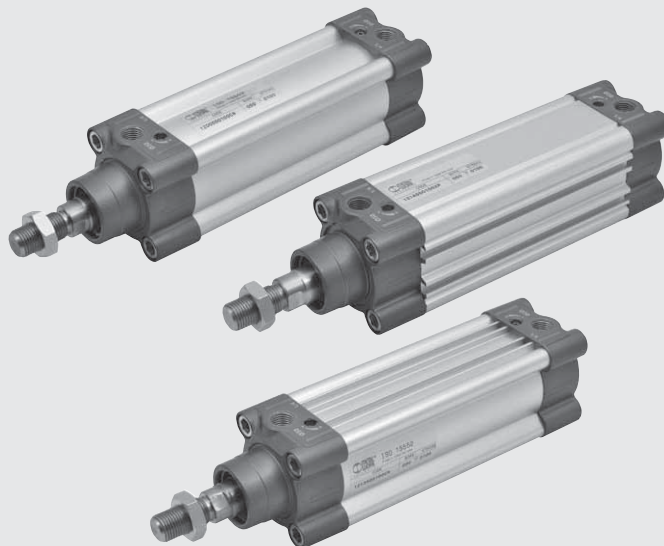
# ISO 15552 CYLINDER (EX ISO 6431)

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)
- Special versions on request
- Fixing accessories, guide units and mechanical piston rod lock.

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

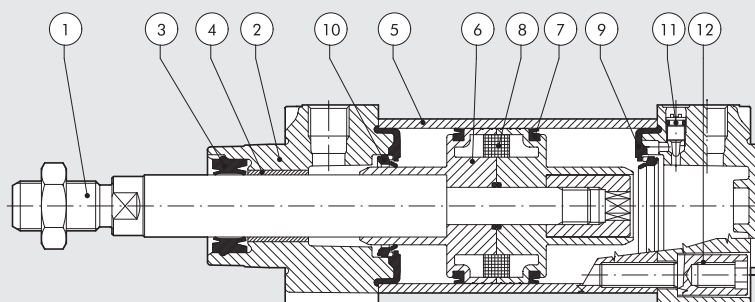
These cylinders are called series STD, type A, series 3.



TECHNICAL DATA		Polyurethane	NBR	FKM/FPM	Low Temperature
Max operating pressure	bar			10	
	MPa			1	
	psi			145	
Temperature range	°C	-10 to +80	-10 to +80	-10 to +150 (non-magnetic cyl.)	-35 to +80
Fluid		Unlubricated air. Lubrication, if used, must be continuous			
Bore	mm	32; 40; 50; 63; 80; 100; 125			
Design		Heads with Tap Tite screws			
Standard stroke †	mm	Single-acting: for bores 32 to 63 strokes from 1 to 250 Double-acting: for bores 32 to 80 strokes from 1 to 2800 for bores 100 to 125 strokes from 1 to 2600			
Versions		Double-acting cushioned, Single-acting extended or retracted rod cushioned, Through-rod cushioned, Long cushioning, High-temperature, Piston 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		Ø 32; 40: 0.4 bar Ø 50; 63 strokes < 1500 mm: 0.3 bar; strokes > 1500 mm: 0.4 bar Ø 80; 100; 125 strokes < 1500 mm: 0.2 bar; strokes > 1500 mm: 0.4 bar			
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			
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: C45 steel or stainless steel, thick chromed
- ② HEAD: die cast aluminium
- ③ PISTON ROD GASKET: polyurethane, NBR or FKM/FPM
- ④ GUIDE BUSHING: steel strip with bronze and PTFE insert
- ⑤ BARREL: drawn anodised 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
- ⑪ CUSHIONING NEEDLE: OT 58 with needle out movement safety system even when fully open
- ⑫ SCREWS: Tap Tite for assembly



# ISO 15552 CYLINDER – SERIES STD (EX ISO 6431)



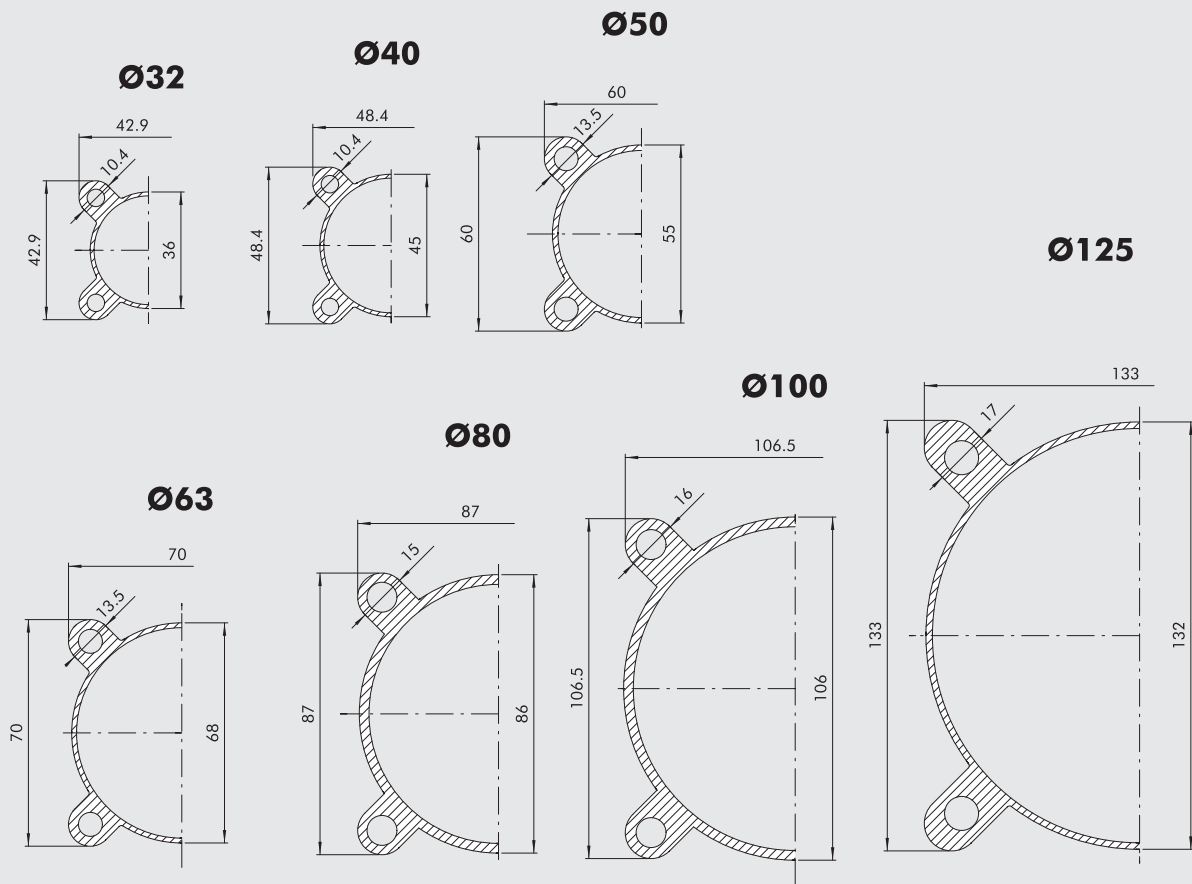
ISO 15552 cylinders, featuring a smooth barrel with no longitudinal slots. This means it is easier to clean the cylinder and there are fewer points where dirt can collect. Specific brackets are required for mounting magnetic sensors.



ACTUATORS

ISO 15552 CYLINDER – SERIES STD

## BARREL CROSS SECTION



KEY TO CODES CYLINDER ISO 15552 STD

CYL	1 2 1	0	3 2	0 0 5 0	C	P	▼ E
	TYPE		BORE	STROKE	MATERIAL	GASKETS	
	120 Double-acting, cushioned, non-magnetic	0 Diameter S Non-magnetic	32 40 50	For the maximum applicable strokes, look at the technical data	A C45 chromed rod, aluminium piston rod: standard for all cylinders with ≥ 1000 mm-stroke cylinders and for cylinder with Ø 80 mm and over	N NBR gaskets P Polyurethane gaskets V FKM/FPM gaskets	E Single-acting extended rod
	121 Double-acting, cushioned	▲ G No stick-slip	63 80			● B Low temperature	
	122 Through-rod		■ 100		C C45 chromed rod, technopolymer piston: standard for cylinders of Ø 32 to 63 mm with <1000 mm strokes		
	124 Double-acting, non-cushioned		■ 125		Z Stainless steel piston rod and nut aluminium piston		
	125 Opposed				X Stainless steel piston rod and nut technopolymer piston		
+	126 Single-acting						
	127 Tandem						
	134 Rod lock version						
*	136 Version with piston rod lock						
* ♦	137 Piston rod lock + guide unit						

- In the code of cylinder with letter in fourth position Ø 100 becomes A1; Ø 125 becomes A2
- Only available for versions with aluminium piston (A or Z)
- + Available until Ø 63 and only the versions with piston in aluminum (A or Z)
- 126... Single-acting retracted rod
- 126...E Single-acting extended rod
- ▼ Letter to be added only to the single acting extended rod version
- ▲ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only
- ◆ Available up to Ø 100
- \* Not available for gaskets V or B

KEY TO CODES CYLINDER ISO 15552 STD 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	Ø 32 to 80	A C45 chromed rod, aluminium piston rod: standard for all cylinders with ≥ 1000 mm-stroke cylinders and for cylinder with Ø 80 mm and over	N NBR gaskets P Polyurethane gaskets V FKM/FPM gaskets
		B Low friction, type B	40	stroke 1 to 2800 mm		
		C Low friction, type C	50	Ø 100 to 125	C C45 chromed rod, technopolymer piston: standard for cylinders of Ø 32 to 63 mm with <1000 mm strokes	
		D Low friction, type D	63	stroke 1 to 2600 mm	Z Stainless steel piston rod and nut aluminium piston	
		E Low friction, type E	80		X Stainless steel piston rod and nut technopolymer piston	
		F Low friction, type F	A1 = Ø 100 A2 = Ø 125			

KEY TO CODES CYLINDER ISO 15552 STD LONG-CUSHIONING

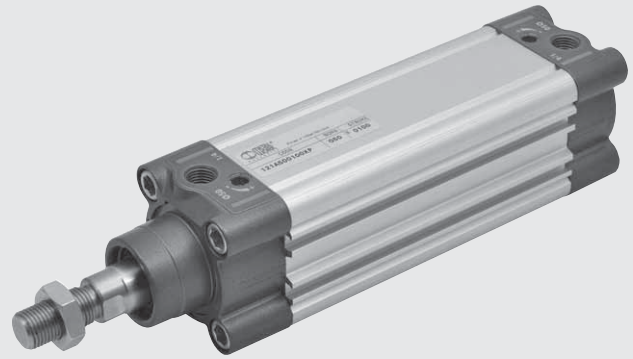
CYL	1 3 1	A	3 2	0 0 5 0	A	P
		TYPE	BORE	STROKE	MATERIAL	GASKETS
		A 200 mm front/rear cushioning cone – 200 mm ext.	32	1 to 2600 mm	A C45 chromed rod, aluminium piston rod for all sizes	N NBR gaskets P Polyurethane gaskets
		B 150 mm front/rear cushioning cone – 150 mm ext.	40			
		C 100 mm front/rear cushioning cone – 100 mm ext.	50		Z Stainless steel piston rod and nut aluminium piston	* 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.				
		T 150 mm rear cushioning cone – 200 mm ext.				
		U 100 mm rear cushioning cone – 200 mm ext.				
		V 50 mm rear cushioning cone – 100 mm ext.				

\* Version valid only for types: Q, R, S, T, U and V.

# ISO 15552 CYLINDER – TYPE A (EX ISO 6431)



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.

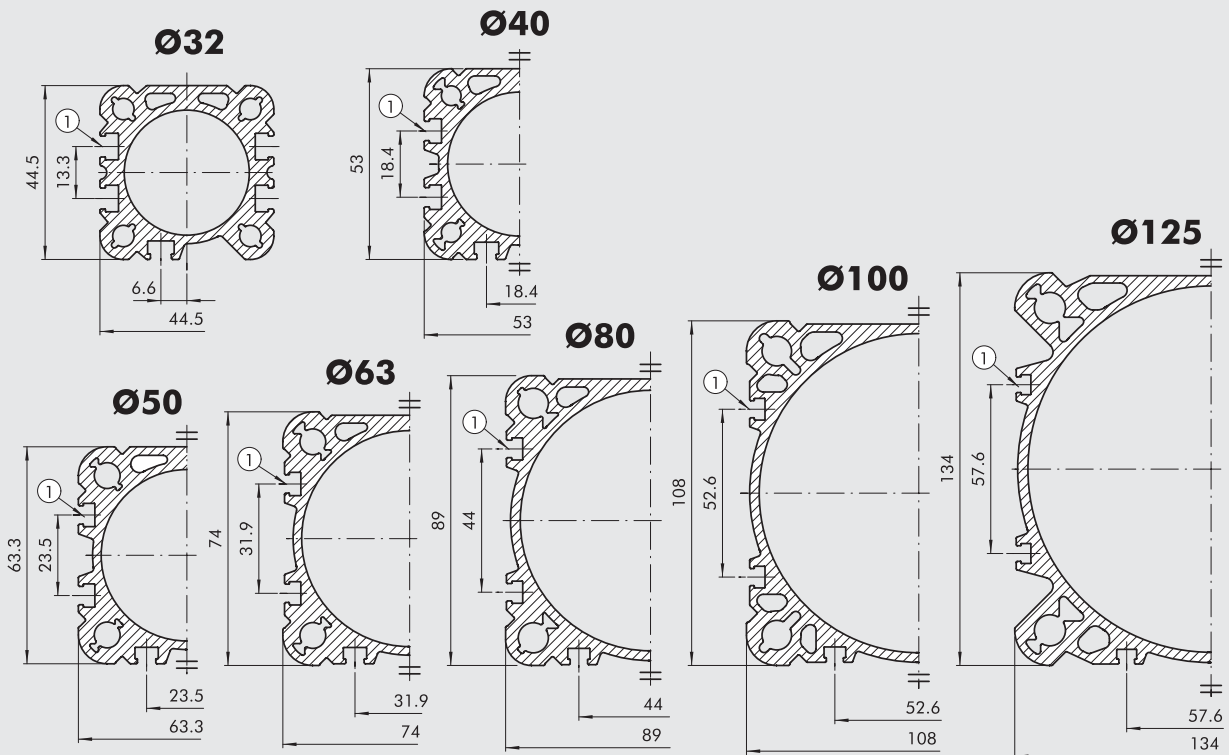


ACTUATORS

ISO 15552 CYLINDER – TYPE A

## BARREL CROSS SECTION

① SLOTS FOR RETRACTABLE SENSOR



## KEY TO CODES CYLINDER ISO 15552 TYPE "A"

CYL	1 2 1 TYPE	A	3 2 BORE	0 0 5 0 STROKE	C MATERIAL	P GASKETS	▼ E
	121 Double-acting, cushioned	A Standard	32	For the maximum supplyable strokes, look at the technical data	A C45 chromed rod, aluminium piston rod: standard for all cylinders with $\geq 1000$ mm-stroke cylinders and for cylinder with $\varnothing 80$ mm and over	N NBR gaskets	E Single-acting extended rod
	122 Through-rod	▲ B No stick-slip	40				
	124 Double-acting, non-cushioned	C Non-magnetic	50				
	125 Opposed		63				
	+ 126 Single-acting		80				
	127 Tandem		A1 = $\varnothing 100$				
	134 Rod lock version		A2 = $\varnothing 125$				
	* 136 Version with piston rod lock			C C45 chromed rod, technopolymer piston: standard for cylinders of $\varnothing 32$ to 63 mm with $<1000$ mm strokes	● B Low temperature		
	* ♦ 137 Piston rod lock + guide unit			Z Stainless steel piston rod and nut aluminium piston			
				X Stainless steel piston rod and nut technopolymer piston			

● 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)  
 126... Single-acting retracted rod  
 126...E Single-acting extended rod

▼ Letter to be added only to the single acting extended rod version

▲ 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

## KEY TO CODES CYLINDER ISO 15552 LOW-FRICTION TYPE "A"

CYL	1 2 9	A TYPE	3 2 BORE	0 0 5 0 STROKE	C MATERIAL	P GASKETS
		A Low friction, type A	32	$\varnothing 32$ to 80 stroke 1 to 2800 mm $\varnothing 100$ to 125 stroke 1 to 2600 mm	A C45 chromed rod, aluminium piston rod: standard for all cylinders with $\geq 1000$ mm-stroke cylinders and for cylinder with $\varnothing 80$ mm and over	N NBR gaskets
		B Low friction, type B	40			P Polyurethane gaskets
		C Low friction, type C	50			V FKM/FPM gaskets
		D Low friction, type D	63			
		E Low friction, type E	80			
		F Low friction, type F	A1 = $\varnothing 100$ A2 = $\varnothing 125$			C C45 chromed rod, technopolymer piston: standard for cylinders of $\varnothing 32$ to 63 mm with $<1000$ mm strokes
					Z Stainless steel piston rod and nut aluminium piston	
					X Stainless steel piston rod and nut technopolymer piston	

## KEY TO CODES CYLINDER ISO 15552 LONG-CUSHIONING TYPE "A"

CYL	1 3 0	A TYPE	3 2 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 rod, aluminium piston rod for all sizes	N NBR gaskets	
		B 150 mm front/rear cushioning cone – 150 mm ext.	40				P Polyurethane gaskets
		C 100 mm front/rear cushioning cone – 100 mm ext.	50			Z Stainless steel piston rod and nut aluminium piston	* 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.					
		T 150 mm rear cushioning cone – 200 mm ext.					
		U 100 mm rear cushioning cone – 200 mm ext.					
		V 50 mm rear cushioning cone – 100 mm ext.					

\* Version valid only for types: Q, R, S, T, U and V.

# ISO 15552 CYLINDER – SERIES 3 (EX ISO 6431)



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.

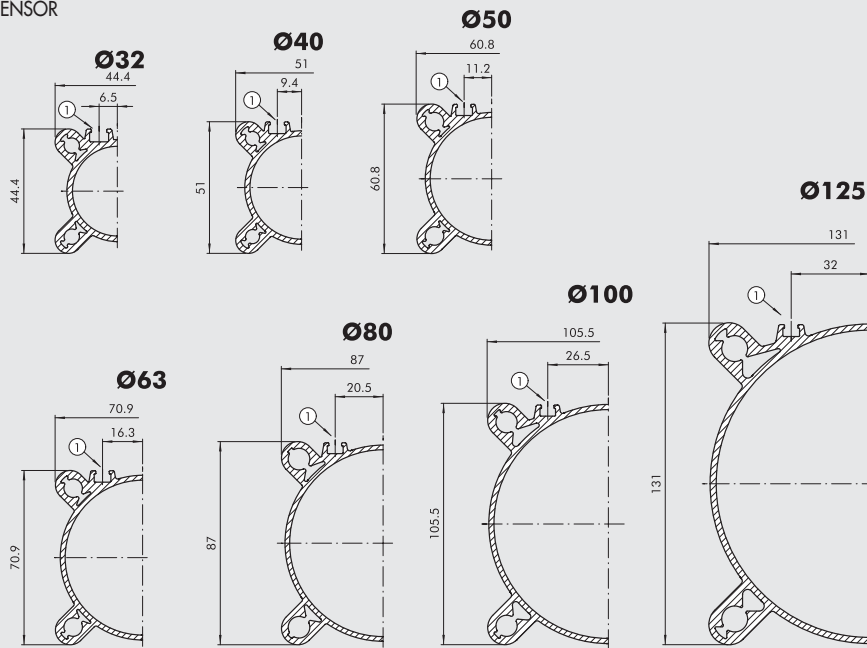


ACTUATORS

ISO 15552 CYLINDER – SERIES 3

## BARREL CROSS SECTION

① SLOTS FOR RETRACTABLE SENSOR



## KEY TO CODES

CYL	1 2 1 TYPE	3	3 2 BORE	0 0 5 0 STROKE	C MATERIAL	P GASKETS	▼ E
	121 Double-acting, cushioned	3 Series 3	32	For the maximum suppliable strokes, look at the technical data	A C45 chromed rod, aluminium piston rod: standard for all cylinders with ≥ 1000 mm-stroke cylinders and for cylinder with Ø 80 mm and over	N NBR gaskets P Polyurethane gaskets V FKM/FPM gaskets	E Single-acting extended rod
	122 Through-rod	4 Series 3 No stick slip	40				
	124 Double-acting, non-cushioned	5 Series 3 Non-magnetic	63		C C45 chromed rod, technopolymer piston: standard for cylinders of Ø 32 to 63 mm with <1000 mm strokes	● B Low temperature	
	125 Opposed		80				
+	126 Single-acting		A1 = Ø 100 A2 = Ø 125		Z Stainless steel piston rod and nut aluminium piston		
	127 Tandem				X Stainless steel piston rod and nut technopolymer piston		
■	134 Rod lock version						
■	136 Version with piston rod lock						
■*	137 Piston rod lock + guide unit						

- Only available for versions with aluminium piston (A or Z)
- + Available until Ø 63 and only the versions with piston in aluminium (A or Z)
- 126... Single-acting retracted rod
- 126...E Single-acting extended rod
- ▼ Letter to be added only to the single acting extended rod version
- ◆ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only
- \* Available until Ø 100
- Not available for gasket V or B



# ISO 15552 ULTRA-LOW FRICTIONS CYLINDER (EX ISO 6431)



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.



ACTUATORS

ISO 15552 ULTRA-LOW FRICTIONS CYLINDER

TECHNICAL DATA		NBR
Max operating pressure	bar	10
	MPa	1
	psi	145
Temperature range	°C	-10 to +80
Fluid		Unlubricated air
Bore	mm	32; 40; 50; 63; 80; 100; 125
Standard stroke	mm	1 to 1200
Design		Heads with Tap Tite screws
Versions		Double-acting magnetic, Double-acting non-magnetic (always "No stick-slip" cylinder)
Sensor magnet		All the versions with or without magnet
Inrush pressure	bar	$\varnothing 32 = 0.08$ $\varnothing 40 = 0.06$ $\varnothing 50 = 0.05$ $\varnothing 63 = 0.04$ $\varnothing 80 = 0.03$ $\varnothing 100 = 0.03$ $\varnothing 125 = 0.03$
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 anodised 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

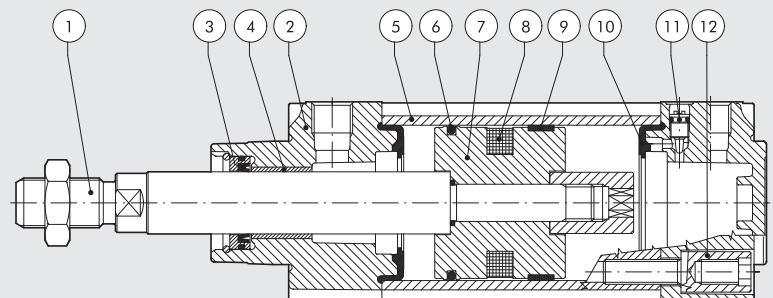
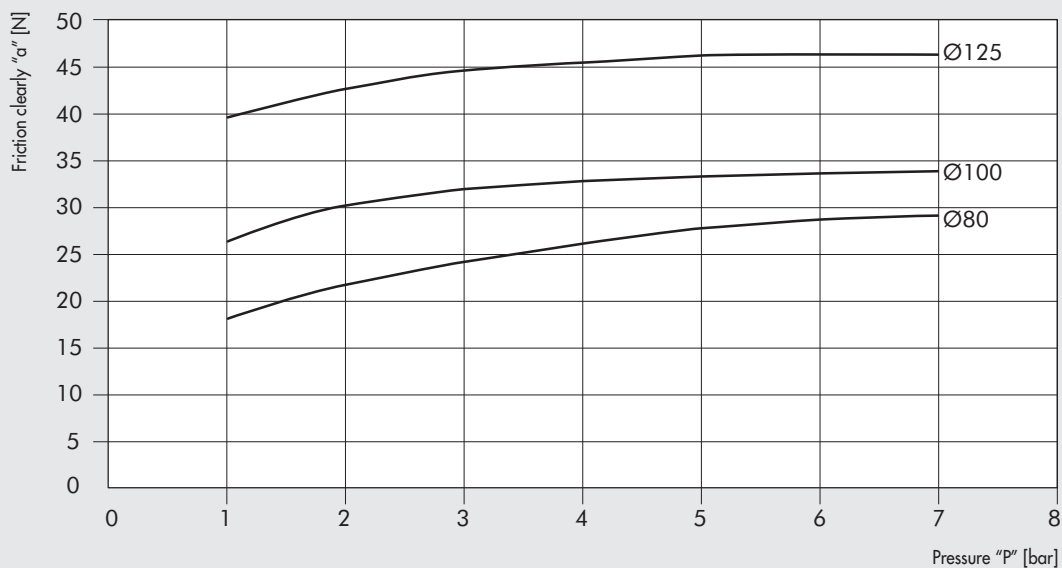
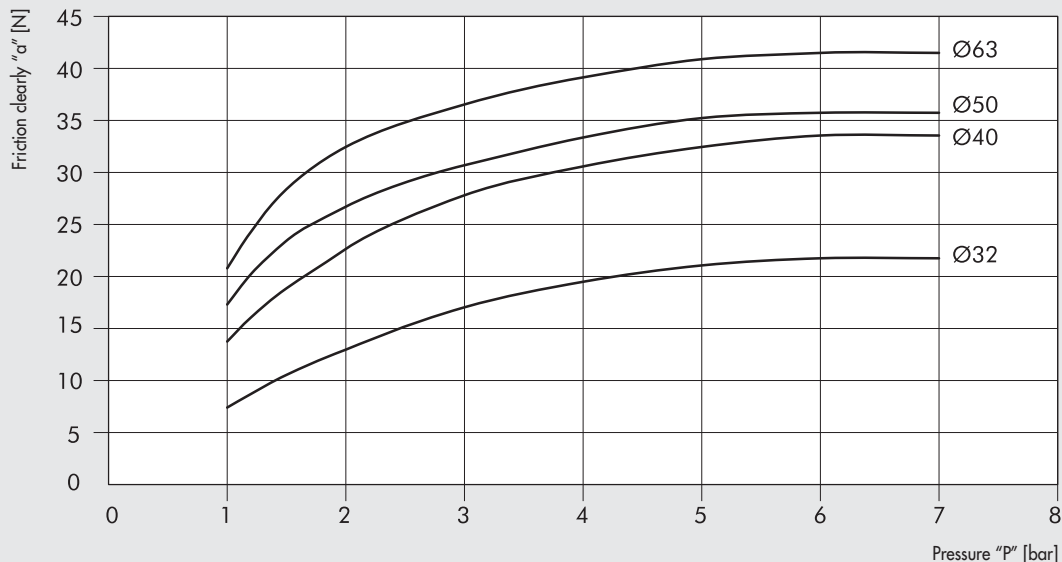




DIAGRAM OF THE CLEAN FRICTIONS



The clean friction values "α" 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:

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

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 A1 = 100 A2 = 125	From 1 to 1200 mm	A C45 chromed rod, aluminium piston rod Z Stainless steel piston rod and nut aluminium piston	N NBR gaskets

ALL the cylinders are No stick-slip.  
ALL the cylinders are non-cushioned.  
Ultra-low friction cylinders are not available in the through-rod version.

# ISO 15552 CYLINDER WITH "COMBI" PISTON ROD GASKET (EX ISO 6431)



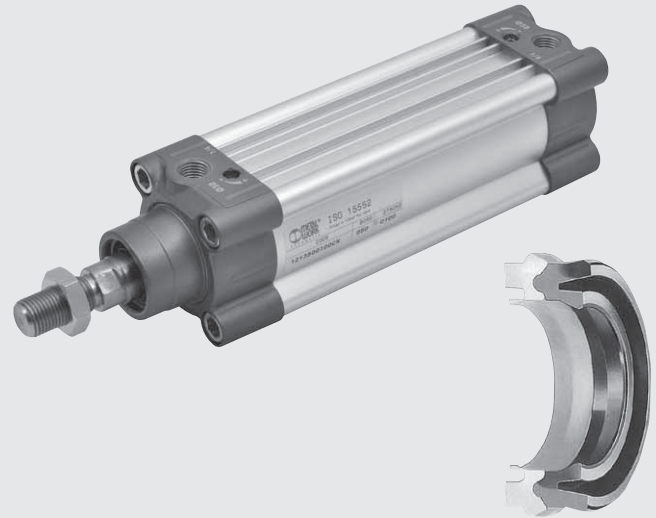
In some applications the piston rod is exposed to pollutants and dirt, which tend to adhere to the surface.

Ordinary gaskets are made of relatively soft elastomers as their main job is to provide a pneumatic seal. In critical applications they are unable to scrape dirt off the surface of the piston rod.

COMBI piston rod gaskets are designed to solve these problems.

They are made up of two separate parts:

- a **sealing element**, inside the cylinder, made of a special NBR elastomer with a Shore A hardness of 80 to provide a pneumatic seal.
- a **scraper ring**, outside the cylinder, made of highly wear-resistant plastic.



ACTUATORS

ISO 15552 CYLINDER WITH "COMBI" PISTON ROD GASKET

## FEATURES AND ADVANTAGES

COMBI gaskets have three functions - sealing, scraping and securing. The outer projection of the scraper ring secures the cylinder head in its seat, so steel retaining rings are not required. This eliminates the risk of corrosion due to the presence of metal.

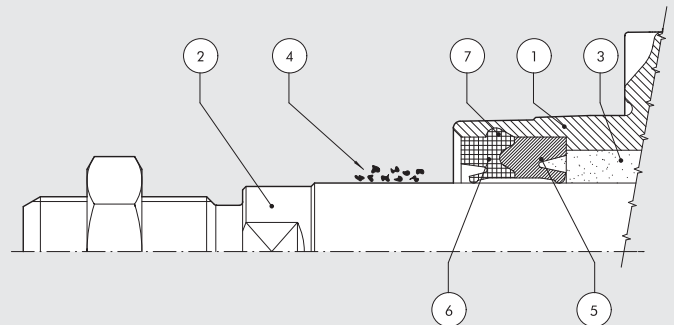
Friction is reduced. The materials used in the scraper ring and sealing element make the gasket extremely long lasting.

Cylinders with COMBI gaskets can be used with unlubricated dry air. The cylinder head seat is the same as for other Metal Work cylinder gaskets, so the cylinder head is standard.

## OPERATING PRINCIPLE

The gasket is housed in the cylinder head ①. Inside the cylinder there is compressed air ③. Dirt ④ deposits on the piston rod ②.

The sealing element ⑤ provides the pneumatic seal. The scraper ring ⑥ cleans the piston rod. The projection ⑦ on the scraper ring secures the gasket in the cylinder head seat.



## TECHNICAL DATA

Bores: 32; 40; 50; 63; 80; 100; 125.

The same as for ISO 15552 cylinders with NBR gaskets.

**Maximum** recommended speed: 1 m/s.

## KEY TO CODES

The codes for ISO 15552 cylinders apply, the last letter C identifying the type of gasket.

**"Long cushioning" version not provided.**

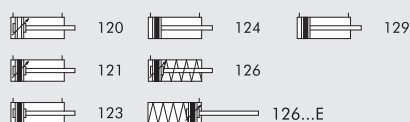
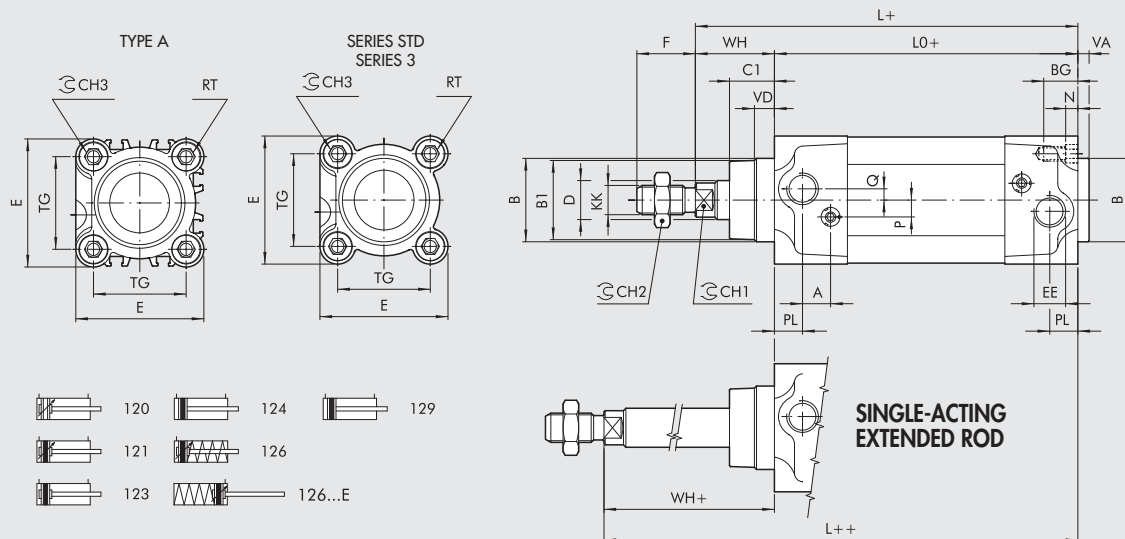
**Example:**

**1210320100CC:** ISO 15552 cylinder, dual-acting, cushioned, magnetic, diameter 32, stroke 100 mm, piston rod made of C45 chrome, COMBI piston rod gasket, other gaskets NBR.

# ISO 15552 CYLINDER DIMENSIONS

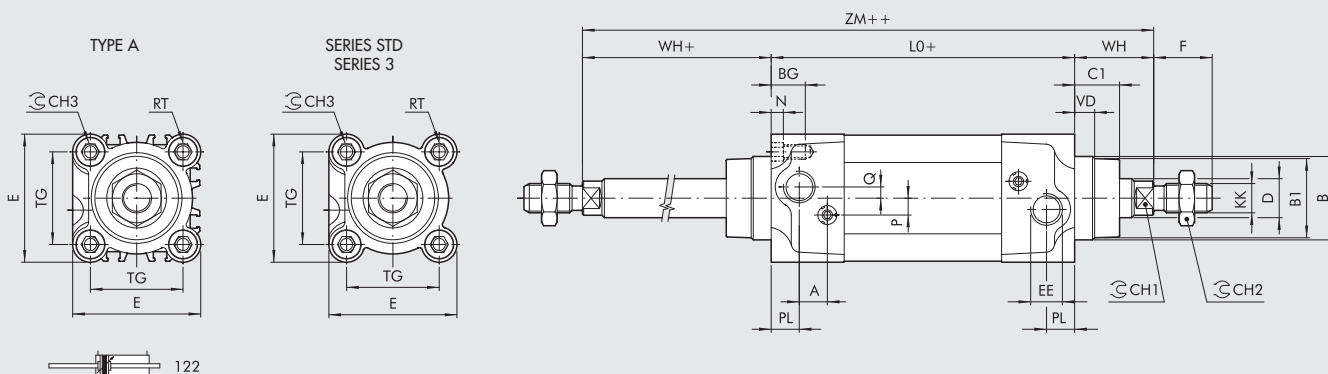
## DIMENSIONS

### STANDARD VERSION



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

### THROUGH-ROD VERSION



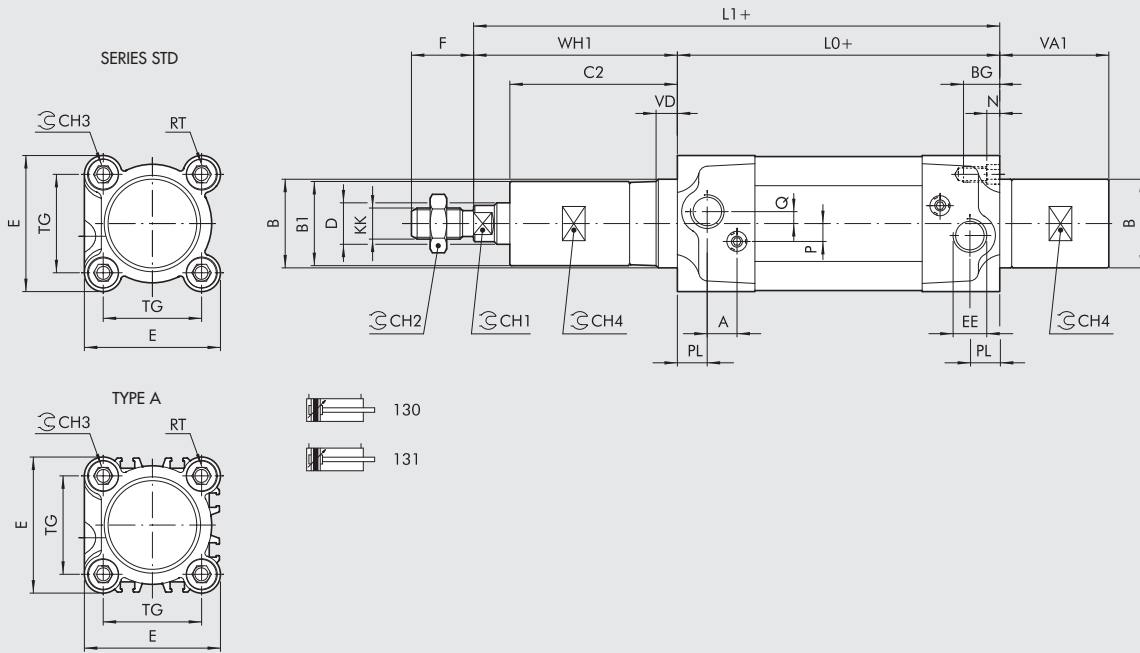
Ø	PL	VD	A	B	B <sub>1</sub>	WH	C <sub>1</sub>	CH <sub>1</sub>	CH <sub>2</sub>	CH <sub>3</sub>	KK	D	TG	VA	F	EE	RT	E	L	L <sub>0</sub>	ZM	BG	N	P	Q
32	10	6.5	10	30	28	26	16	10	17	6	M10x1.25	12	32.5	4	22	G1/8	M6	46	120	94	146	14.5	4.5	6	4
40	12	8	10	35	33	30	20	13	19	6	M12x1.25	16	38	4	24	G1/4	M6	54	135	105	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 126 ... (SINGLE-ACTING RETRACTED ROD)  
VERSION 126...E (SINGLE-ACTING EXTENDED ROD)

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

**DIMENSIONS 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 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 CUSHIONING**

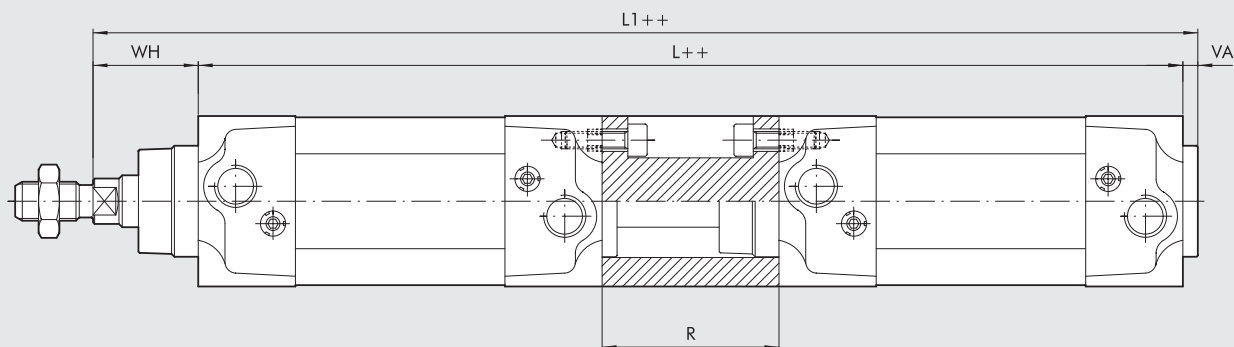
Ø	WH <sub>1</sub>	C <sub>2</sub>	VA <sub>1</sub>	L <sub>1</sub>
32	156	146	129	250
40	157	147	121.5	262
50	162.5	150.5	119.5	268.5
63	162.5	150.5	123.5	283.5

**200 mm 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 OF TANDEM VERSION**

++ = ADD TWICE THE STROKE

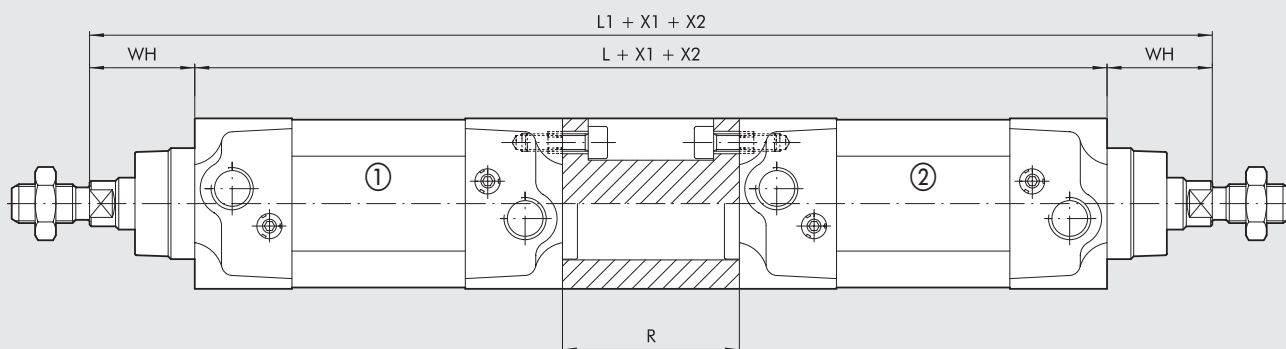


Ø	WH	VA	R	L	L <sub>1</sub>
32	26	4	55	243	273
40	30	4	55	265	299
50	37	4	68	280	321
63	37	4	68	310	351
80	46	4	92	348	398
100	51	4	92	368	423
125	65	6	120	440	511

Refer to standard cylinders for other values.

**DIMENSIONS OF 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.

# ISO 15552 TWO-FLAT CYLINDER (EX ISO 6431)



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.

TECHNICAL DATA		POLYURETHANE			
Max operating pressure	bar	10			
	MPa	1			
	psi	145			
Temperature range	°C	-10 to +80			
Fluid		Unlubricated air. Lubrication, if used, must be continuous			
Bore	mm	32; 40; 50; 63			
Design		Heads with Tap Tite screws			
Maximun stroke	mm	Ø 32 = 300	Ø 40 = 400	Ø 50 = 500	Ø 63 = 500
Versions		Double-acting cushioned, Through-rod cushioned, No stick-slip			
Sensor magnet		All versions come complete with magnet. Supplied without magnet on request			
Inrush pressure	bar	Ø 32 = 0.4	Ø 40 = 0.4	Ø 50 = 0.3	Ø 63 = 0.3
Max torque on piston rod	Nm	Ø 32 = 0.2	Ø 40 = 0.4	Ø 50 = 1	Ø 63 = 1
Maximum rotation on the rod	degrees	Ø 32 = 1° 30'	Ø 40 = 1° 30'	Ø 50 = 1°	Ø 63 = 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 DIAMETER	3 2 BORE	0 0 5 0 STROKE	F MATERIAL	P GASKETS
120	Double-acting, cushioned, non-magnetic	Ø 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	P Polyurethane gaskets
121	Double-acting, cushioned					
122	Through-rod					

- + 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 DIAMETER	3 2 BORE	0 0 5 0 STROKE	F MATERIAL	P GASKETS
121	Double-acting, cushioned	A Standard ▲ B No stick-slip C Non-magnetic	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	P Polyurethane gaskets
122	Through-rod					

- + 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 SERIES 3 CYLINDERS

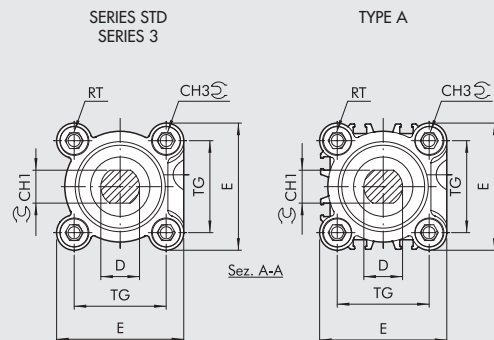
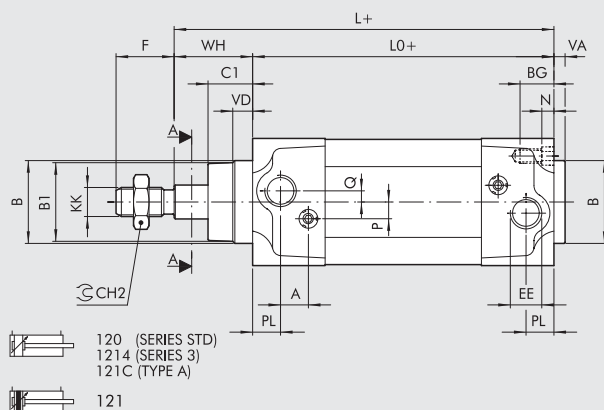
CYL	1 2 1 TYPE	3	3 2 BORE	0 0 5 0 STROKE	F MATERIAL	P GASKETS
121	Double-acting cushioned	3 Series 3 ▲ 4 Series 3 No stick-slip	32 40 50 63	+ Ø 32 stroke 1 to 300 mm + Ø 40 stroke 1 to 400 mm + Ø 50 to 63 stroke 1 to 500 mm	F "Two-Flat" piston rod AISI 303 stainless steel nut	P Polyurethane gaskets
122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

- + 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

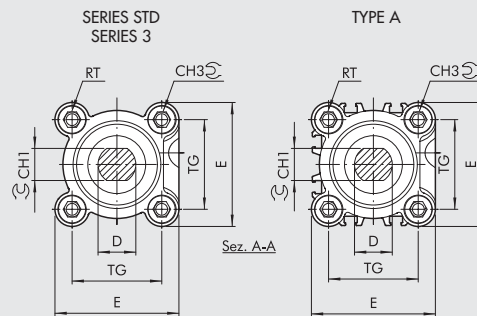
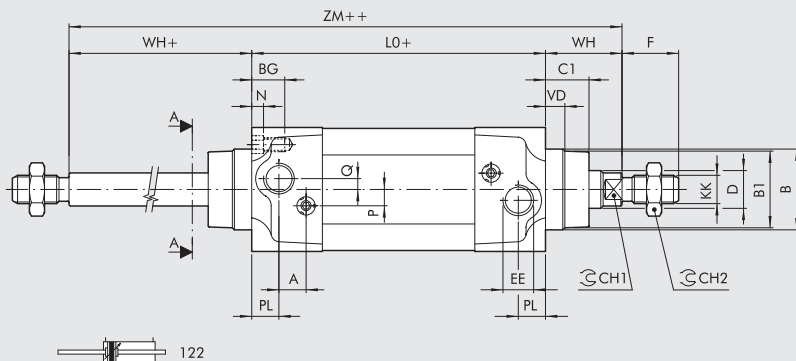
+ = ADD THE STROKE



- 120 (SERIES STD)
- 1214 (SERIES 3)
- 121C (TYPE A)
- 121

THROUGH-ROD VERSION

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



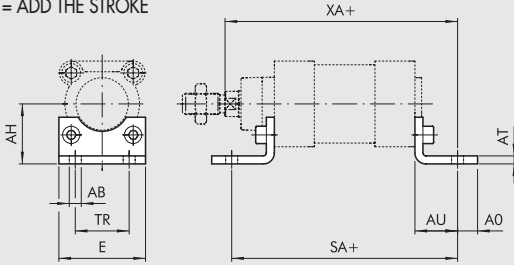
Ø	PL	VD	A	B	B <sub>1</sub>	WH	C <sub>1</sub>	CH <sub>1</sub>	CH <sub>2</sub>	CH <sub>3</sub>	KK	D	TG	VA	F	EE	RT	E	L	L <sub>0</sub>	ZM	BG	N	P	Q
32	10	6.5	10	30	28	26	16	10	17	6	M10x1.25	12	32.5	4	22	G1/8	M6	46	120	94	146	14.5	4.5	6	4
40	12	8	10	35	33	30	20	13	19	6	M12x1.25	16	38	4	24	G1/4	M6	54	135	105	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

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

## FIXINGS

### FOOT - MODEL A

+ = ADD THE STROKE

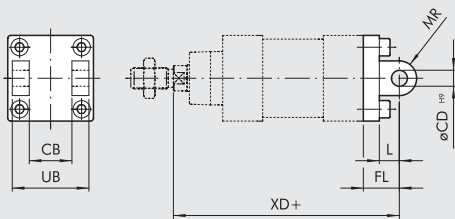


Code	Ø	Ø AB	AH	AO	AT	AU	TR	E	XA	SA	Weight [g]
W0950322001	32	7	32	11	4	24	32	45	144	142	76
W0950402001	40	9	36	15	4	28	36	52	163	161	100
W0950502001	50	9	45	15	4	32	45	65	175	170	162
W0950632001	63	9	50	15	6	32	50	75	190	185	266
W0950802001	80	12	63	20	6	41	63	95	215	210	456
W0951002001	100	14	71	25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

Note: Individually packed with 2 screws

### FEMALE HINGE - MODEL B

+ = ADD THE STROKE

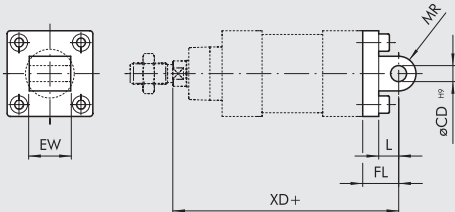


Code	Ø	UB	CB	FL	øCD	XD	MR	L	Weight [g]
W0950322003	32	45	26	22	10	142	10	12	116
W0950402003	40	52	28	25	12	160	12	15	160
W0950502003	50	60	32	27	12	170	12	15	252
W0950632003	63	70	40	32	16	190	16	20	394
W0950802003	80	90	50	36	16	210	16	20	670
W0951002003	100	110	60	41	20	230	20	25	1085
W0951252003	125	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

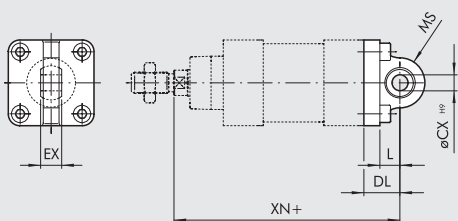


Code	Ø	EW	FL	MR	øCD	L	XD	Weight [g]
W0950322004	32	26	22	11	10	12	142	94
W0950402004	40	28	25	13	12	15	160	124
W0950502004	50	32	27	13	12	15	170	220
W0950632004	63	40	32	17	16	20	190	316
W0950802004	80	50	36	17	16	20	210	578
W0951002004	100	60	41	21	20	25	230	850
W0951252004	125	70	50	26	25	30	275	1590

Note: Supplied with 4 screws

### ARTICULATED MALE HINGE - MODEL BAS

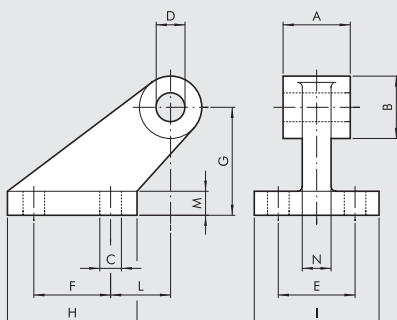
+ = ADD THE STROKE



Code	Ø	DL	MS	L	XN	øCX	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

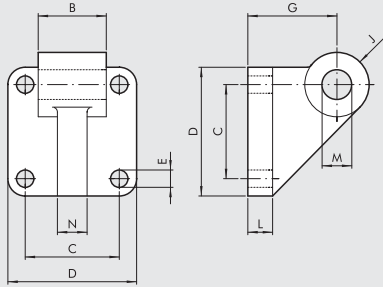


Code	Ø	A	B	C	D	E	F	G	H	I	L	M	N	Weight [g]
W0950322008	32	26	19	7	10	25	20	32	37	41	18	8	10	96
W0950402008	40	28	26	9	12	32	32	45	54	52	25	10	12	216
W0950502008	50	32	26	9	12	32	32	45	54	52	25	10	12	212
W0950632008	63	40	33	11	16	40	50	63	75	63	32	12	15	440
W0950802008	80	50	33	11	16	40	50	63	75	63	32	12	15	464
W0951002008	100	60	44	14	20	50	70	90	103	80	40	16	22	985
W0951252008	125	70	44	14	25	50	70	90	103	80	40	16	22	1000

Note: Supplied with 4 screws, 4 washers



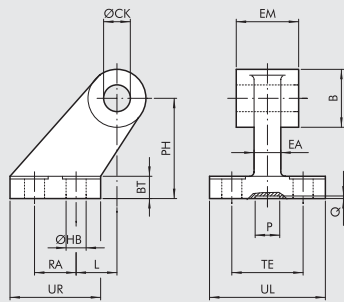
ISO HINGE FOR MODEL B - MODEL GS



Code	Ø	B	C	D	E	G	J	L	M	N	Weight [g]
W0950322108	32	25.5	32.5	45	7	32	11	10	10	10	106
W0950402108	40	27.5	38	52	7	36	13	10	12	12	138
W0950502108	50	31.5	46.5	65	9	45	13	12	12	12	252
W0950632108	63	39.5	56.5	75	9	50	17	12	16	15	350
W0950802108	80	49.5	72	95	11	63	17	16	16	15	655
W0951002108	100	59.5	89	115	11	73	21	16	20	22	980

Note: Supplied with 4 screws, 4 washers

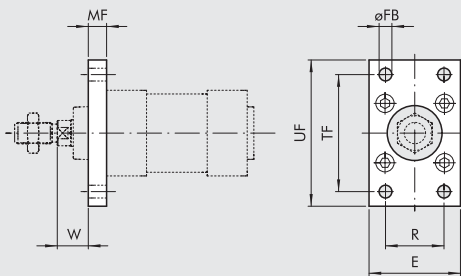
ISO 15552 HINGE FOR MODEL B - MODEL AB7



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

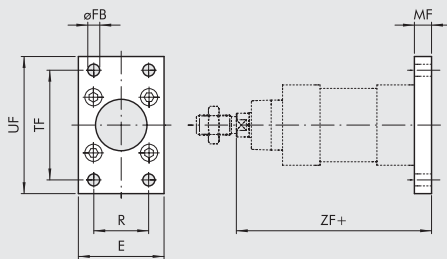


Code	Ø	TF	UF	E	MF	R	øFB	W	Weight [g]
W0950322002	32	64	80	50	10	32	7	16	246
W0950402002	40	72	90	55	10	36	9	20	290
W0950502002	50	90	110	65	12	45	9	25	522
W0950632002	63	100	120	75	12	50	9	25	670
W0950802002	80	126	153	95	16	63	12	30	1420
W0951002002	100	150	178	115	16	75	14	35	2040
W0951252002	125	180	220	140	20	90	16	45	4300

Note: Supplied with 4 screws

REAR FLANGE - MODEL C

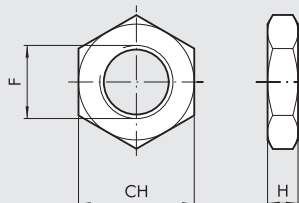
+ = ADD THE STROKE



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	153	95	16	63	12	190	1420
W0951002002	100	150	178	115	16	75	14	205	2040
W0951252002	125	180	220	140	20	90	16	245	4300

Note: Supplied with 4 screws.

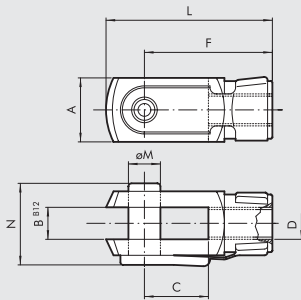
ROD NUT - MODEL S



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

Note: Individually packed

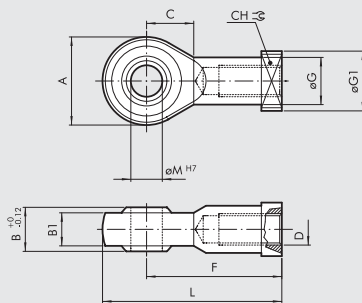
**FORK MODEL GK-M**



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: Individually packed

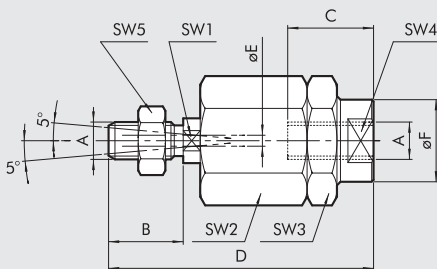
**ROD EYE - MODEL GA-M**



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

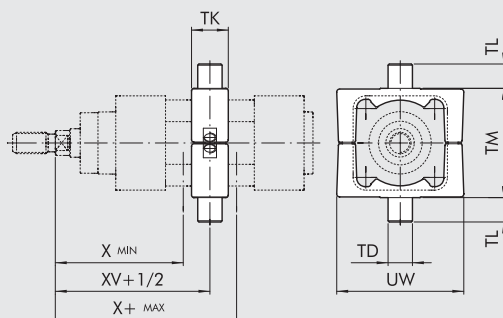
Note: Individually packed

**NOTES**

## ACCESSORIES FOR ISO 15552 CYLINDERS: INTERMEDIATE HINGE

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

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

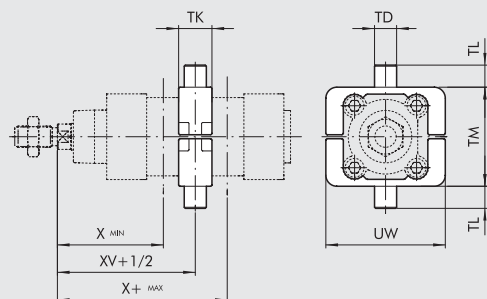


Code	Ø	X <sub>(min)</sub>	XV	X <sub>(max)</sub>	TM	TL	TD <sub>e.9</sub>	TK	UW	Weight [g]
0950322007	32	63	73	83	50	12	12	22	65	282
0950402007	40	72	82.5	93	63	16	16	28	75	582
0950502007	50	83	90	97	75	16	16	32	95	880
0950632007	63	86.5	97.5	108.5	90	20	20	35	105	1230
0950802007	80	104	110	116	110	20	20	40	130	2030
0951002007	100	113.5	120	126.5	132	25	25	45	145	2600
0951252007	125	135	145	155	160	25	25	50	175	3900

Note: Supplied complete with 4 grub screws, 2 pins

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

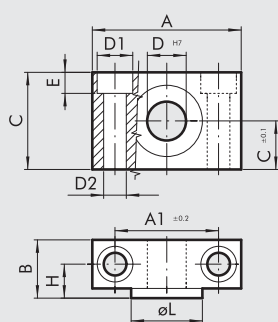
+ = ADD THE STROKE  
 + 1/2 = ADD HALF THE STROKE



Code	Ø	X <sub>(min)</sub>	XV	X <sub>(max)</sub>	TM	TL	TD <sub>e.9</sub>	TK	UW	Weight [g]
0950322107	32	63	73	83	50	12	12	22	65	170
0950402107	40	72	82.5	93	63	16	16	28	75	360
0950502107	50	83	90	97	75	16	16	28	95	580
0950632107	63	86.5	97.5	108.5	90	20	20	36	105	950
0950802107	80	104	110	116	110	20	20	36	130	1480
0951002107	100	113.5	120	126.5	132	25	25	45	145	2140
0951252107	125	135	145	155	160	25	25	50	175	2950

Note: Supplied with 8 grub screws, 2 pins

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

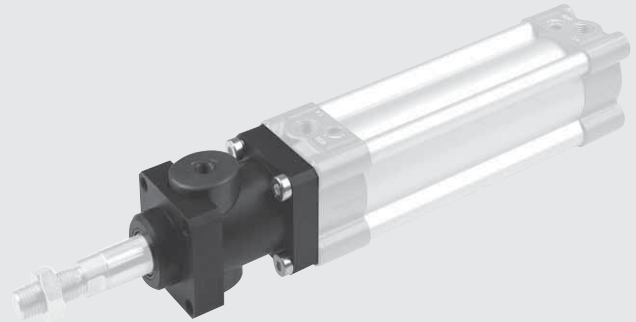


Code	Ø	A	A <sub>1</sub>	B	C	C <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D	E	H	øL	Weight [g]
W0950322009	32	46	32	18	30	15	11	7	12	6.5	10.5	22	162
W0950402009	40	55	36	21	36	18	15	9	16	8.5	12	28	278
W0950402009	50	55	36	21	36	18	15	9	16	8.5	12	28	278
W0950632009	63	65	42	23	40	20	18	11	20	10.5	13	35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

Note: 2-pieces pack with 4 screws

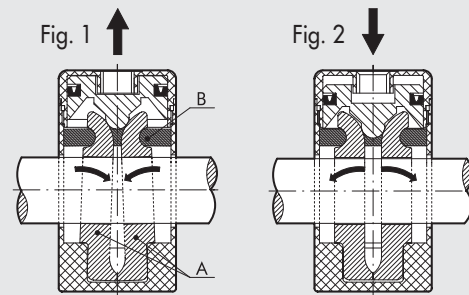
# ACCESSORIES FOR ISO 15552 CYLINDERS: MECHANICAL ROD BLOCK

TECHNICAL DATA								
Pilot pressure	bar	4 to 8						
	MPa	0.4 to 0.8						
Temperature range	°C	-10 to +80						
	°F	14 to 176						
		NC - bidirectional						
Operation	Double pad with mechanical lock							
Mechanics	Mechanical stick-slip							
Locking force	Ø	32	40	50	63	80	100	125
	N	650	1100	1600	2500	4000	6300	8700
MATERIAL								
body	Aluminium							
pad	Brass							
spring	NBR							
piston	Synthetic material with added Teflon®							
gasket	NBR							
Pilot port	M5 or 1/8"							



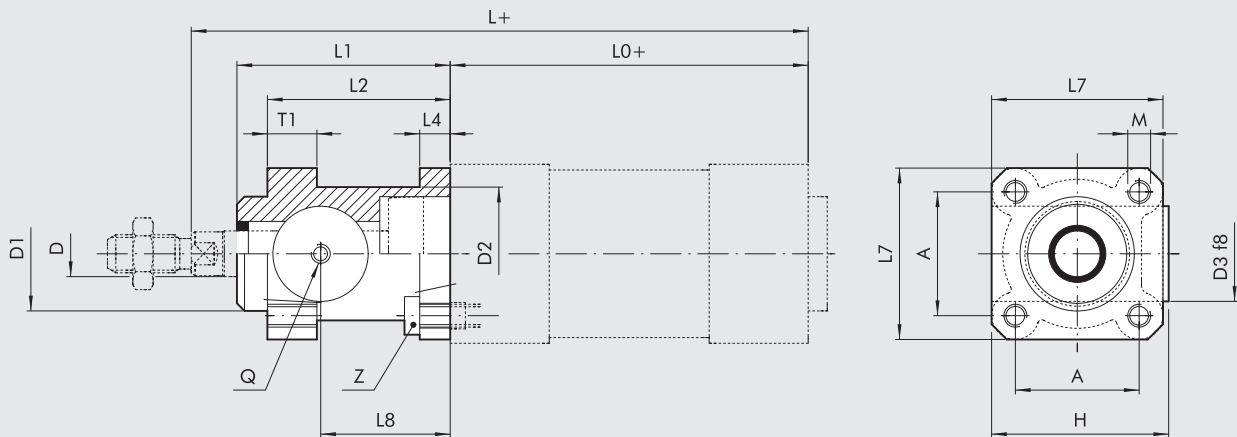
## OPERATING PRINCIPLE

The mechanical piston rod lock 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 piston 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
W5010001104	50	82	70	15	60	48	20	40	50	35	64	46.5	16	M8	M8x30	G1/8	106	200	500
W5010001109	63	82	70	15	70	49.5	20	45	60	38	75	56.5	16	M8	M8x30	G1/8	121	215	700
W5010001106	80	110	90	18	90	61	25	45	80	48	95	72	20	M10	M10x35	G1/8	128	251	1700
W5010001107	100	115	100	18	105	68	25	55	100	58	110.5	89	20	M10	M10x35	G1/8	138	266	2700
W5010001108	125	167	122	22	140	86.5	32	60	130	65	150	110	30	M12	M12x40	G1/8	160	347	5600

## ACCESSORIES FOR ISO 15552 CYLINDERS: GUIDE UNITS

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

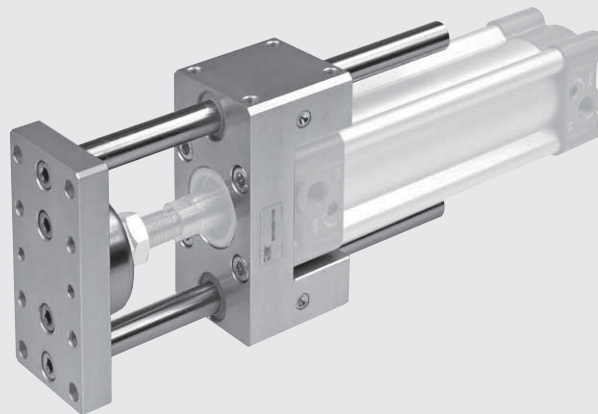
H PROFILE (GDM)\*\*: for high speeds

\* 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.

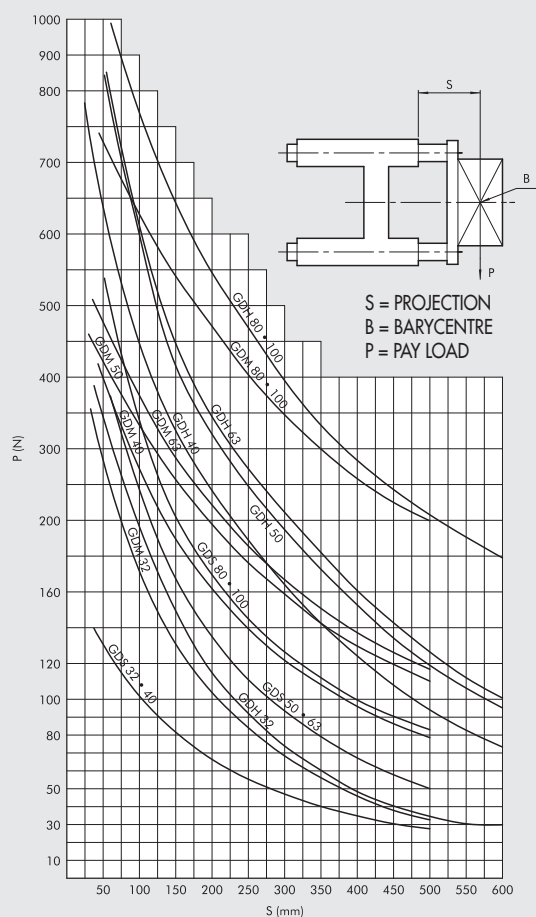


### COMPONENTS

<b>SERIES GDS-GDH</b>	Body:	aluminium alloy
	Guide bushing:	self-lubricating sintered bronze and wiper rings
	Piston rod:	chromed rolled steel

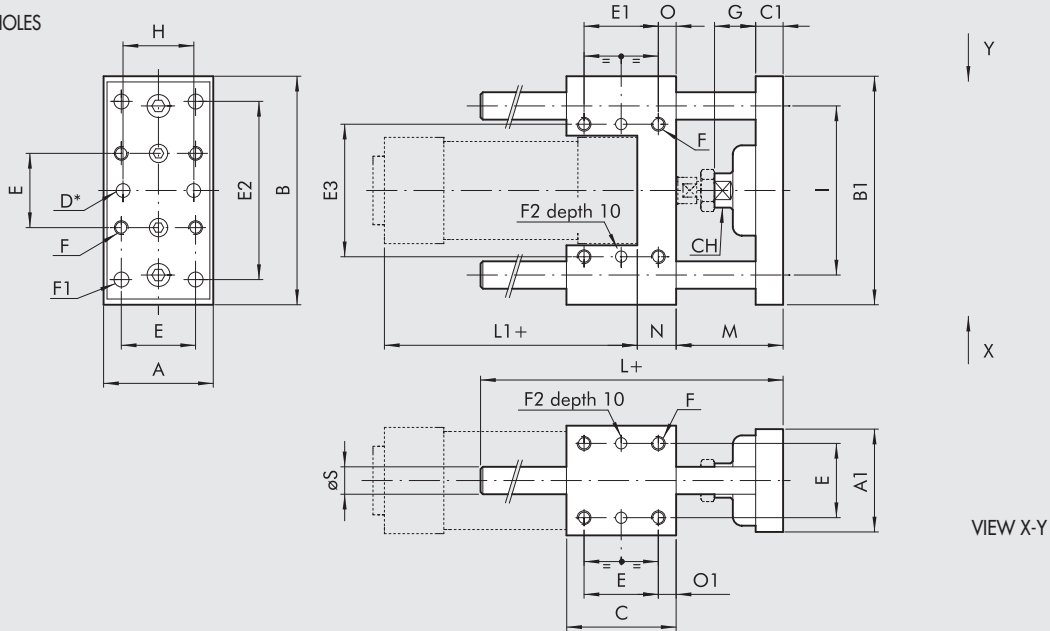
<b>SERIES GDM</b>	Body:	aluminium alloy
	Guide bushing:	ball linear bearings and scraper ring
	Piston rod:	tempered stainless steel

### GRAPH OF GUIDE UNIT LOADS



**DIMENSIONS TYPE GDS**

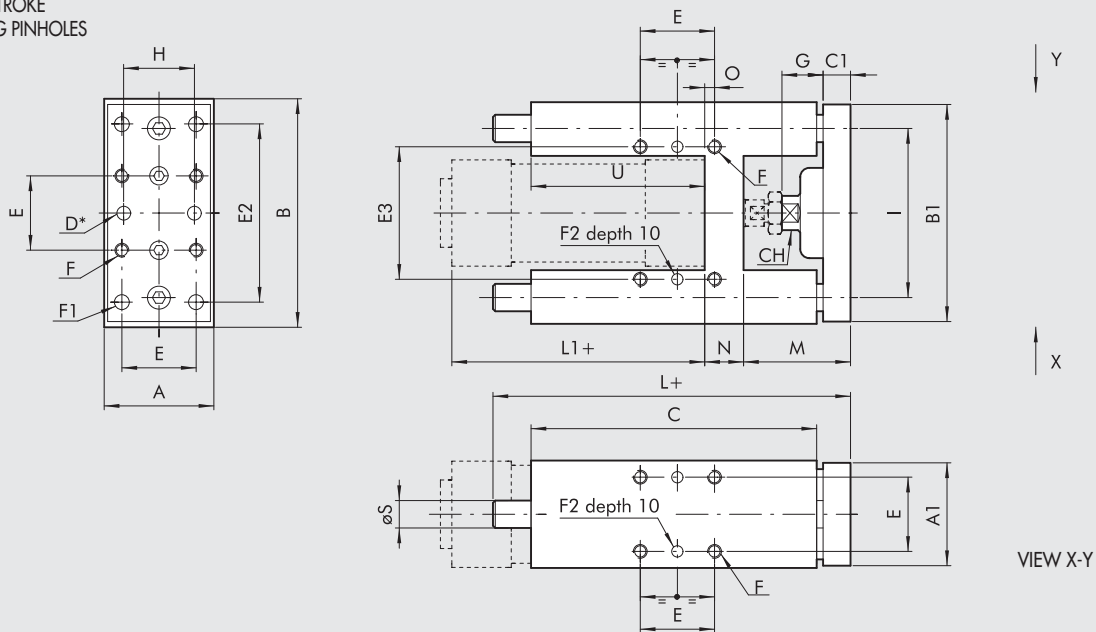
+ = ADD THE STROKE  
 \* = CENTERING PINHOLES



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
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
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
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
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
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
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

**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
32	49	45	97	90	125	12	13	6	32.5	78	61	M6	6.5	6	18	31	74	177	94	48	17	4.3	12	76
40	58	54	115	110	139	15	15	6	38	84	69	M6	6.5	6	21	36	87	192	105	53	21	11	16	81
50	69	63	137	130	148	15	22	6	46.5	100	85	M8	8.5	6	24	45	104	205	106	63	26	18.5	20	78
63	85	79	152	145	182	15	22	6	56.5	105	100	M8	8.5	6	24	45	119	237	121	62	26	15.3	20	111
80	105	99	189	180	215	20	27	6	72	130	130	M10	11	6	31	56	148	280	128	76	34	21	25	128
100	129	120	213	200	220	20	27	6	89	150	150	M10	11	6	31	56	172	280	138	76	39	24.5	25	128

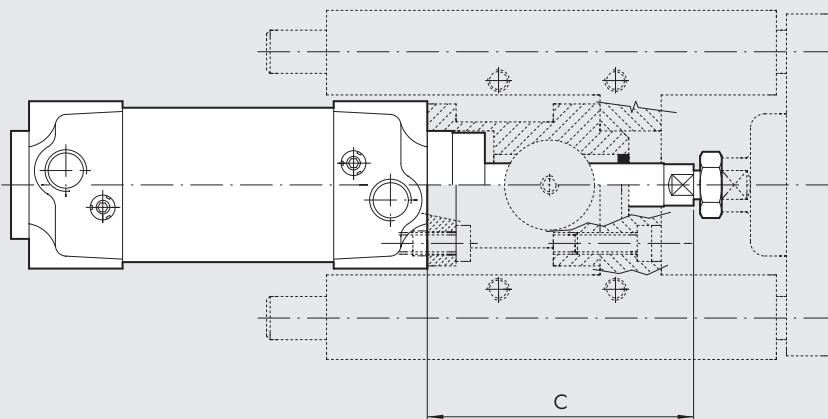
ORDER CODE GUIDE UNIT

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

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

DIMENSIONS PISTON ROD LOCK + GUIDE UNIT COD. 137

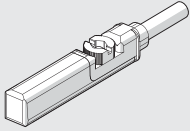
Ø	C
32	74
40	85
50	107
63	107
80	136
100	143



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

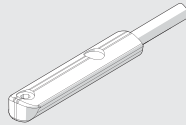
## RETRACTABLE SENSOR

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



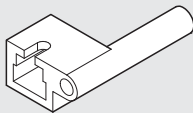
Can only be used on ISO 15552 type A and series 3 cylinders. For codes and technical data, see **chapter A6**.

**SENSOR, OVAL TYPE**  
Traditional



Can be used on all ISO 15552 cylinders. Use the adaptor to secure to STD cylinders. For codes and technical data, see **chapter A6**.

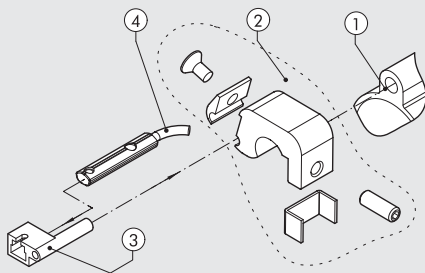
## ADAPTER FOR OVAL TYPE RETRACTABLE SENSORS



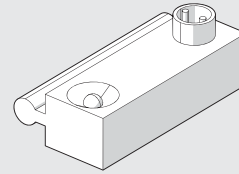
Code	Description
W0950001001	Adaptor DSS005 for DST/ST brackets

## 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"



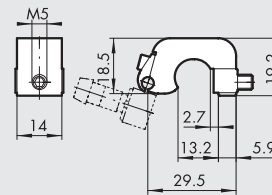
## SENSOR SERIES DSM



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

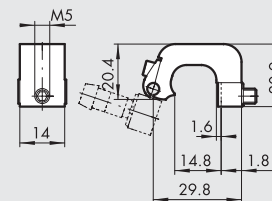
## SENSOR SUPPORT BRACKETS FOR SENSORS DSM

Ø 32 to 40



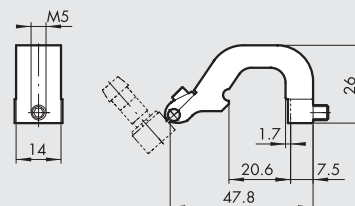
Code	Description
W0950000711	Bracket D.32-40 DST 80

Ø 50 to 63



Code	Description
W0950000712	Bracket D.50-63 DST 81

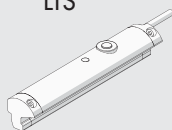
Ø 80 to 125



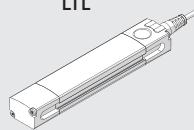
Code	Description
W0950000713	Bracket D.80-100-125 DST 82

## POSITION SENSOR

LTS



LTL



Model	For ISO 15552 cylinders
LTS	type A - series 3
LTL	type A

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

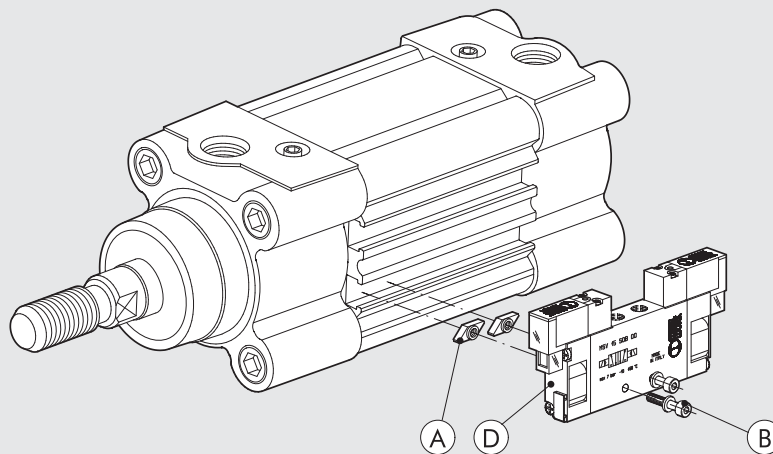


**VALVE ASSEMBLY ON CYLINDER FOR TYPE A AND SERIES 3 CYLINDERS**

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

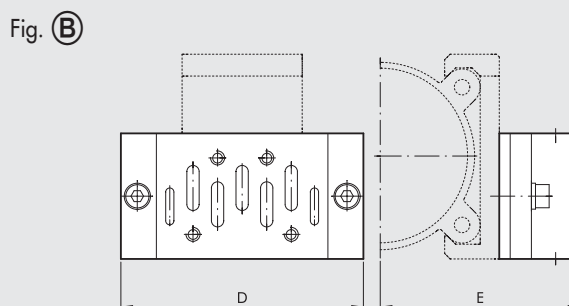
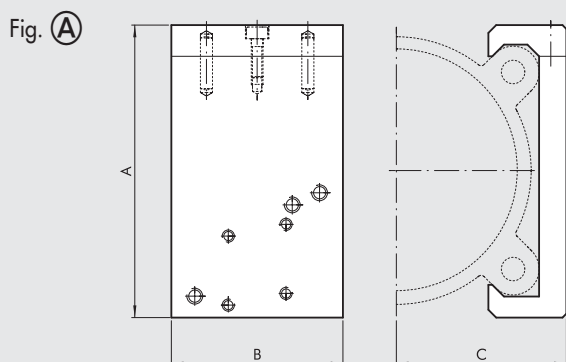
This can be done using the special plates (A), which come with both the M3 and M4 threads, and screws (B) of the size, type and quantity shown in the table below.

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)**

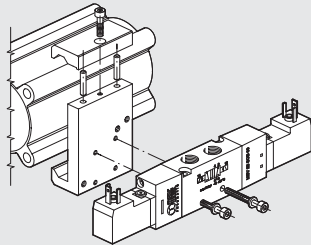
Code	Ø	A	B	C	D	ISO 1		ISO 2		Applicable valves	Weight [g]
						E	D	E			
0950322090	32	54	40	29.5	110	64.5	124	70.5	MACH 16 Series 70 1/8-1/4 ISO 1 - ISO 2	80	
0950402090	40	59.5	40	32.2	110	67.2	124	73.2	MACH 16 Series 70 1/8-1/4 ISO 1 - ISO 2	86	
0950502090	50	71.5	40	37	110	72	124	78	MACH 16 Series 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**

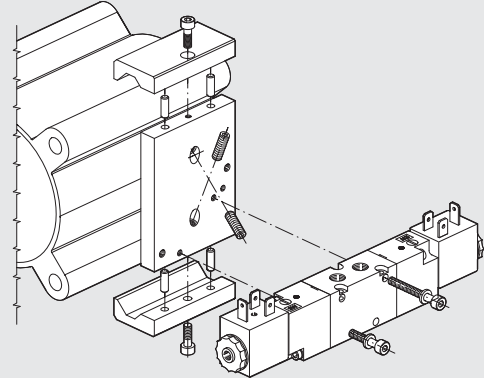
Code	Valve kit	Composition	Weight [g]
0950002003	MACH 16	2 hex. screws M3x25 with washer	4
0950002004	Series 70 1/8-1/4	2 hex. screws M4x30 with washer	8
0950002006	Series 70 1/2	2 hex. screws M5x50 with washer	20
0950002001	ISO 1	Adaptor + ISO 1 BASE SIDE + screws + washers (Fig.B)	230
0950002002	ISO 2	Adaptor + ISO 2 BASE SIDE + screws + washers (Fig.B)	350

**VALVE ASSEMBLY ON CYLINDER**

FOR Ø 32-40-50-63



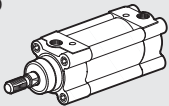
FOR Ø 80-100-125



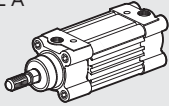
**CYLINDERS ISO 1552 STD, TYPE "A" AND SERIES 3 TWO-FLAT: SPARE PARTS**

**NEW RELEASE**

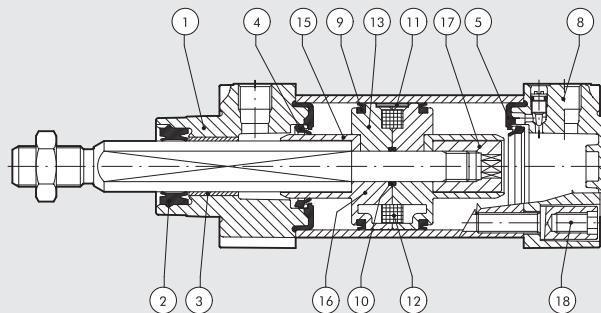
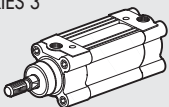
STD



TYPE A



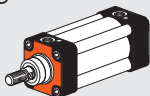
SERIES 3



Code	Bore	Type	Parts
009 ... 0101F	Ø 32 to 63	Set of polyurethane gaskets	4-5-9-10
009 ... 0110FN	Ø 32 to 63	Complete polyurethane front head kit	1-2-3-4-5-18
009 ... 0111N	Ø 32 to 63	Complete polyurethane rear head kit	4-5-8-18
009 ... 0604	Ø 32 to 63	Complete polyurethane piston kit	9-10-16-17
009 ... 0704FN	Ø 32 to 63	Complete polyurethane head front+rear+piston kit	1-2-3-4-5-8-9-10-16-17-18
009 ... 0800	Ø 32 to 63	Magnet	12

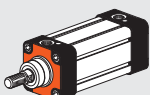
**OLD RELEASE**

STD



The OLD RELEASE version with black front heads is no longer available. For spare parts, please contact our sales offices.

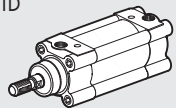
TYPE A



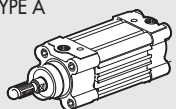
## CYLINDERS ISO 15552 STD, TYPE "A" AND SERIES 3: SPARE PARTS

### NEW RELEASE

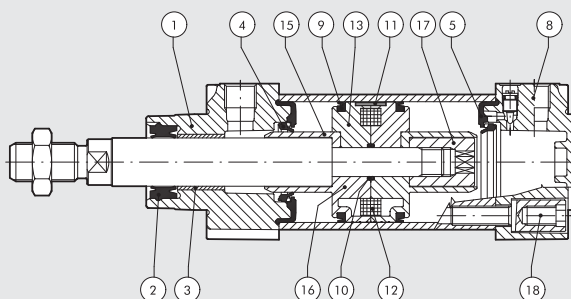
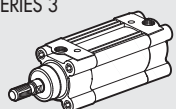
STD



TYPE A



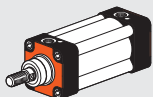
SERIES 3



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 + seeger	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 ... 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

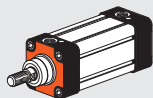
### OLD RELEASE

STD



The OLD RELEASE version with black front heads is no longer available. For spare parts, please contact our sales offices.

TYPE A



# ISO 15552 CYLINDER – SERIES HCR (High Corrosion Resistance)



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

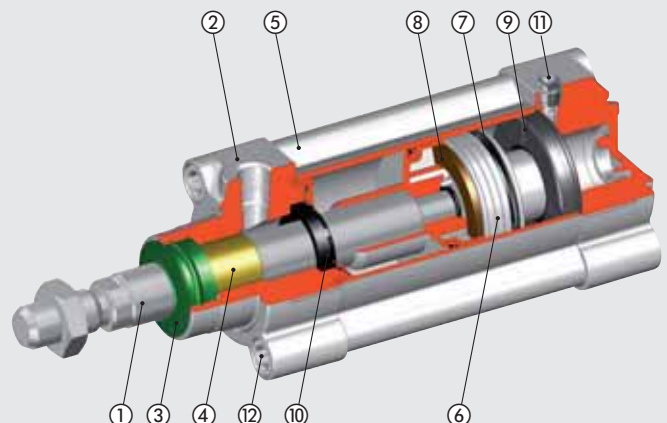
Also available with liner in the STD series or series 3.



TECHNICAL DATA		
Max operating pressure	bar	10
	MPa	1
	psi	145
Temperature range	°C	-10 to +60
	Resistance in corrosive environments at 20°C	Basic solution (5% sodium hydroxide - pH max 12) Acid solution (5% hydrochloric acid - pH min. 2.5) Salt mist testing to DIN 50021-SS, 500 hours
Fluid		Unlubricated air. Lubrication, if used, must be continuous
Bores	mm	32; 40; 50; 63; 80; 100; 125
Standard strokes	mm	For bores 32 to 80 strokes from 1 to 2800 for bores 100 to 125 strokes from 1 to 2600
Versions		Double-acting, Double-acting cushioned, Through-rod cushioned (magnetic and non-magnetic versions are available for each type)
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

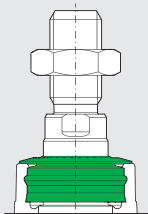
## COMPONENTS

- ① PISTON ROD: AISI 316, thickness-chromed
- ② HEAD: anodized pressure die-cast aluminium, epoxy-vinyl ester and epoxy-resin powder coating
- ③ PISTON ROD GASKET: special polyurethane
- ④ GUIDE BUSHING: steel strip with bronze and PTFE insert
- ⑤ BARREL: drawn anodised 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
- ⑪ NEEDLE: AISI 316
- ⑫ SCREWS: AISI 316



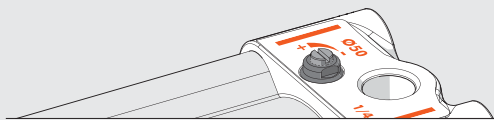
**PISTON ROD GASKET FOR HYGIENICALLY-SENSITIVE APPLICATIONS**

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.



**TRIPLE HEAD PROTECTION**

- EPOXY-RESIN POWDER COATING
- EPOXY-VINYL ESTER COATING
- ANODISATION
- HEAD MADE OF PRESSURE DIE-CAST ALUMINIUM ALLOY

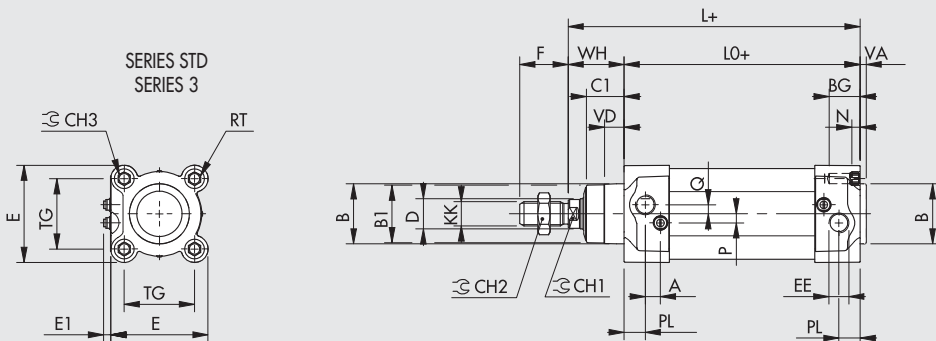
**FOOD GRADE GREASE**

NSF H1 certified. Adhesive, waterproof.



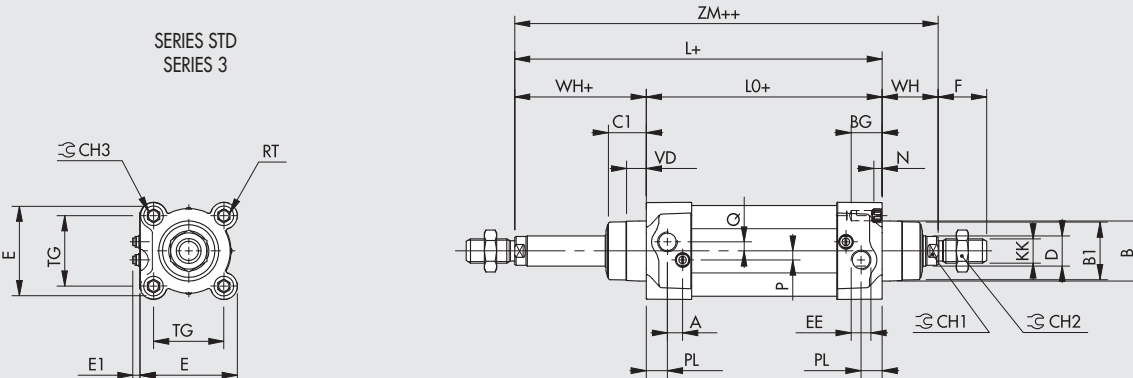
**DIMENSIONS**

**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
40	12	8	10	35	33	30	20	13	19	6	M12x1.25	16	38	4	24	G1/4	M6	54	4.5	8.4	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	4.5	8.9	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	4.1	9.5	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	6.2	12.2	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	6.7	12.2	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	5.7	12.7	225	160	290	25.5	6.5	12	8

KEY TO CODES

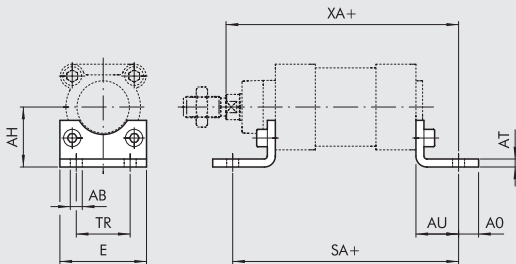
CYL	1 2 1 TYPE	0	32 BORE	0050 STROKE	B MATERIAL	L GASKETS
	121 Double-acting, cushioned	0 Diameter	32	For the maximum	B AISI 316 rod, technopolymer piston rod: standard for cylinders of Ø32 to Ø63	L Piston rod gaskets made of special polyurethane; other gaskets made of NBR
	▲ 122 Through-rod	5 Standard Non-magnetic	40	suppliable strokes, look at the technical data	W AISI 316 rod, aluminium piston rod: 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 S, 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

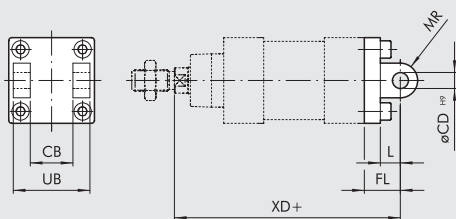


Code	Ø	øAB	AH	AO	AT	AU	TR	E	XA	SA	Weight [g]
W095X322001	32	7	32	11	4	24	32	45	144	142	85
W095X402001	40	9	36	8	4	28	36	52	163	161	95
W095X502001	50	9	45	15	5	32	45	65	175	170	200
W095X632001	63	9	50	13	5	32	50	75	190	185	225
W095X802001	80	12	63	14	6	41	63	95	215	210	435
W095XA12001	100	14	71	16	6	41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

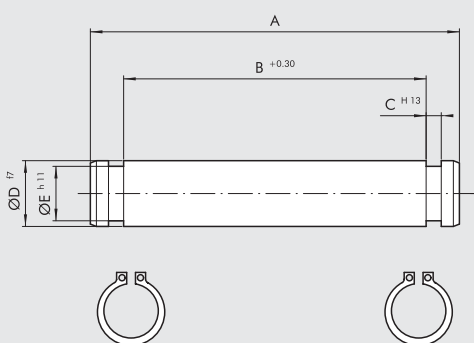
+ = ADD THE STROKE



Code	Ø	UB	CB	FL	øCD	XD	MR	L	Weight [g]
W095X322003	32	45	26	22	10	142	10	9	175
W095X402003	40	52	28	25	12	160	12	9	250
W095X502003	50	60	32	27	12	170	12	11	425
W095X632003	63	70	40	32	16	190	16	11	635
W095X802003	80	90	50	36	16	210	16	14	1270
W095XA12003	100	110	60	41	20	230	20	14	2000
W095XA22003	125	130	70	50	25	275	25	20	3715

Note: Supplied with 4 screws, 4 washers. WITHOUT PIN.

STAINLESS STEEL FEMALE HINGE PIN (AISI 304)

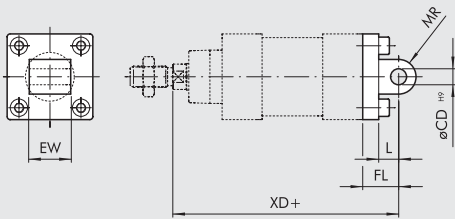


Code	Ø	A	B	C	D	E	Weight [g]
W095X322050	32	53	46	1.1	10	9.6	35
W095X402050	40	60	53	1.1	12	11.5	55
W095X502050	50	68	61	1.1	12	11.5	65
W095X632050	63	78	71	1.1	16	15.2	125
W095X802050	80	98	91	1.1	16	15.2	160
W095XA12050	100	118	111	1.3	20	19	295
W095XA22050	125	139	132	1.3	25	23.9	540

Note: Supplied with 2 snap-rings

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

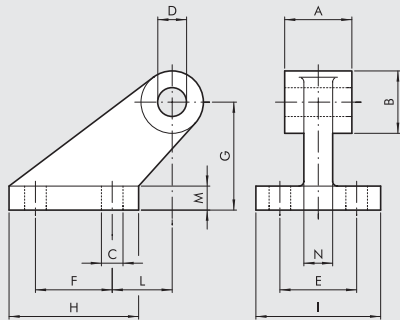
+ = ADD THE STROKE



Code	Ø	EW	FL	MR	øCD	L	XD	Weight [g]
W095X322004	32	26	22	10	10	9	142	195
W095X402004	40	28	25	12	12	9	160	265
W095X502004	50	32	27	12	12	11	170	445
W095X632004	63	40	32	16	16	11	190	715
W095X802004	80	50	36	16	16	14	210	1375
W095XA12004	100	60	41	20	20	14	230	2165
W095XA22004	125	70	50	25	25	20	275	3800

Note: Supplied with 4 screws, 4 washers

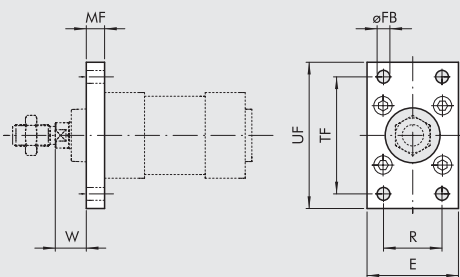
**STAINLESS STEEL ISO COUNTER-HINGE FOR MODEL B - MODEL GL (AISI 304)**



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)**

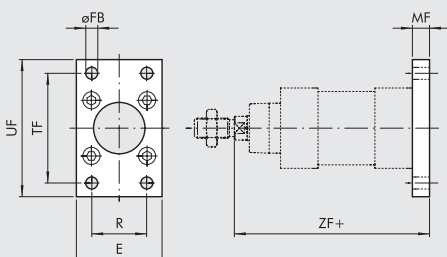


Code	Ø	UF	TF	E	R	MF	øFB	W	Weight [g]
W095X322002	32	80	64	45	32	10	7	16	220
W095X402002	40	90	72	52	36	10	9	20	280
W095X502002	50	110	90	65	45	12	9	25	540
W095X632002	63	120	100	75	50	12	9	25	680
W095X802002	80	150	126	95	63	16	12	30	1550
W095XA12002	100	170	150	115	75	16	14	35	2100
W095XA22002	125	205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

Note: Supplied with 4 screws

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

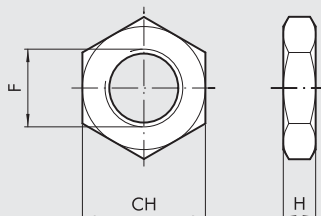
+ = ADD THE STROKE



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

Note: Supplied with 4 screws

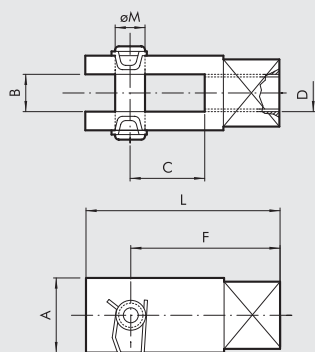
### STAINLESS STEEL NUT FOR PISTON RODS (AISI 316)



Code	Ø	F	H	CH	Weight [g]
W095X322011	32	M10x1.25	6	17	8
W095X402011	40	M12x1.25	7	19	11
W095X502011	50	M16x1.5	8	24	18
W095X502011	63	M16x1.5	8	24	18
W095X802011	80	M20x1.5	9	30	31
W095X802011	100	M20x1.5	9	30	31
W095XA22011	125	M27x2	12	41	81

Note: Individually packed

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



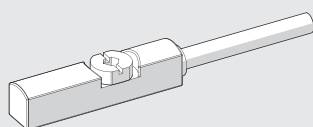
Code	Ø	A	B	C	D	F	L	ØM	Weight [g]
W095X322020	32	20	10	20	M10x1.25	40	52	10	90
W095X402020	40	24	12	24	M12x1.25	48	62	12	145
W095X502020	50	32	16	32	M16x1.5	64	83	16	325
W095X502020	63	32	16	32	M16x1.5	64	83	16	325
W095X802020	80	40	20	40	M20x1.5	80	105	20	680
W095X802020	100	40	20	40	M20x1.5	80	105	20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

Note: Individually packed

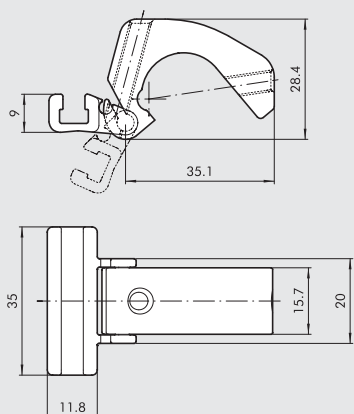
## ACCESSORIES: MAGNETIC SENSORS

### 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



NOTES

Blank lined area for notes.

# TWIN-ROD CYLINDER SERIES TWNC



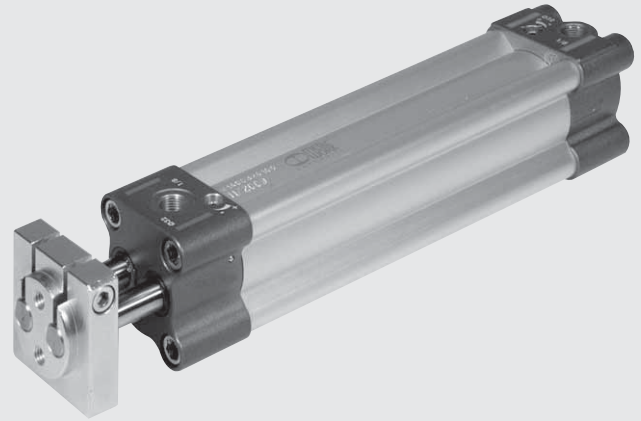
ACTUATORS

TWIN-ROD CYLINDER – SERIES TWNC

Anti-rotation cylinders with axial dimensions to ISO 15552.

Serie STD barrel.

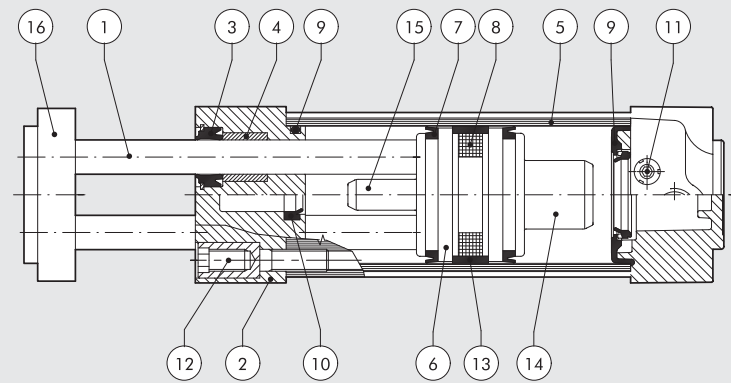
- standard configuration with magnet
- double-acting – passing twinner rods and single passing rod
- polyurethane gasket



TECHNICAL DATA		
Max operating pressure	bar	10
	MPa	1
	psi	145
Temperature range	°C	-10 to +80
Fluid		Filtered, unlubricated air. Lubrication, if used, must be continuous
Bores	mm	32; 40; 50; 63; 80; 100
Strokes <sup>+</sup>	mm	from 25 to 500
Design		Extruded profile
Esecution		Magnetic standard cushioned
Forces generated at 6 bar thrust/retraction	N	Ø 32: 434/350
		Ø 40: 678/597
		Ø 50: 1060/940
		Ø 63: 1683/1471
		Ø 80: 2714/2295
	Ø 100: 4241/3812	
Weight		See cylinder "General technical data" at the beginning of the chapter
Notes		<sup>+</sup> Maximum recommended strokes. Higher values can create operating problems

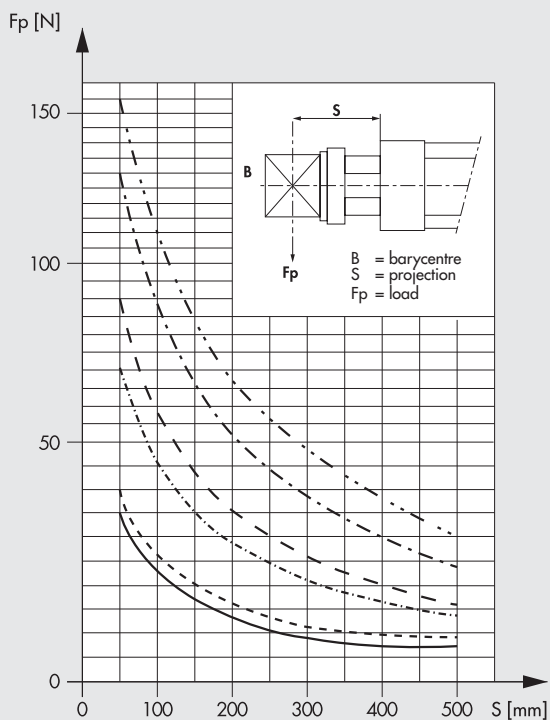
## COMPONENTS

- PISTON ROD: thick chromed steel
- HEAD: aluminium alloy
- PISTON ROD GASKET: polyurethane
- GUIDE BUSHING: sintered bronze
- BARREL: drawn anodised 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

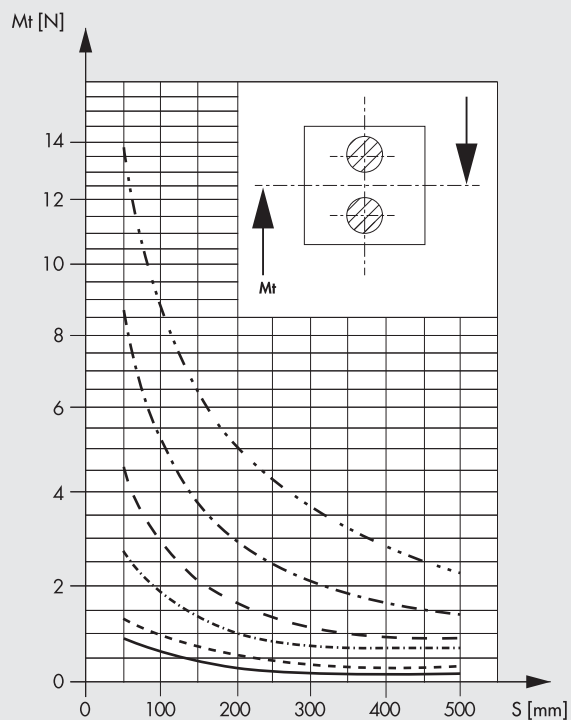


PERMISSIBLE LOADS

FLEXION LOADS



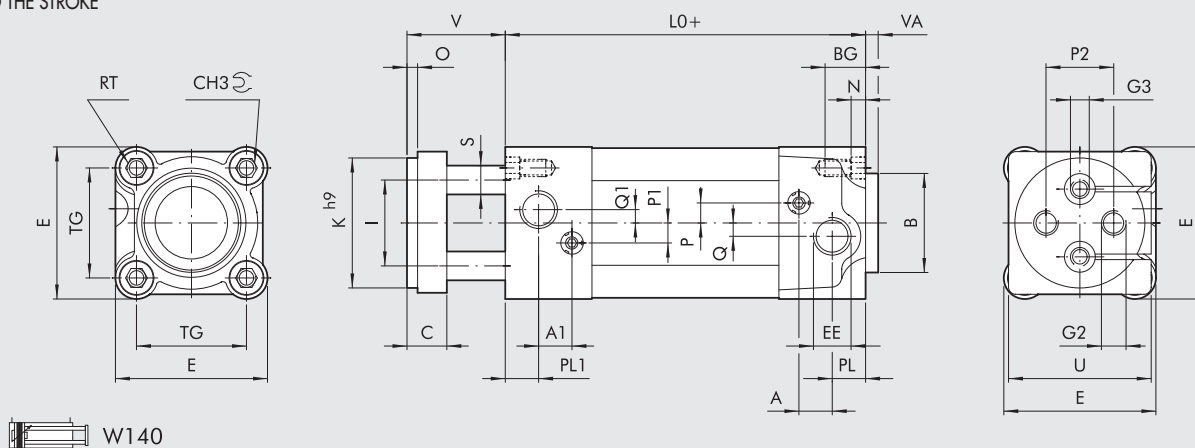
TWISTING MOMENTS



- Ø 32
- - - Ø 40
- · - · Ø 50
- - - Ø 63
- · - · Ø 80
- · - · Ø 100

TWIN RODS CYLINDER

+ = ADD THE STROKE

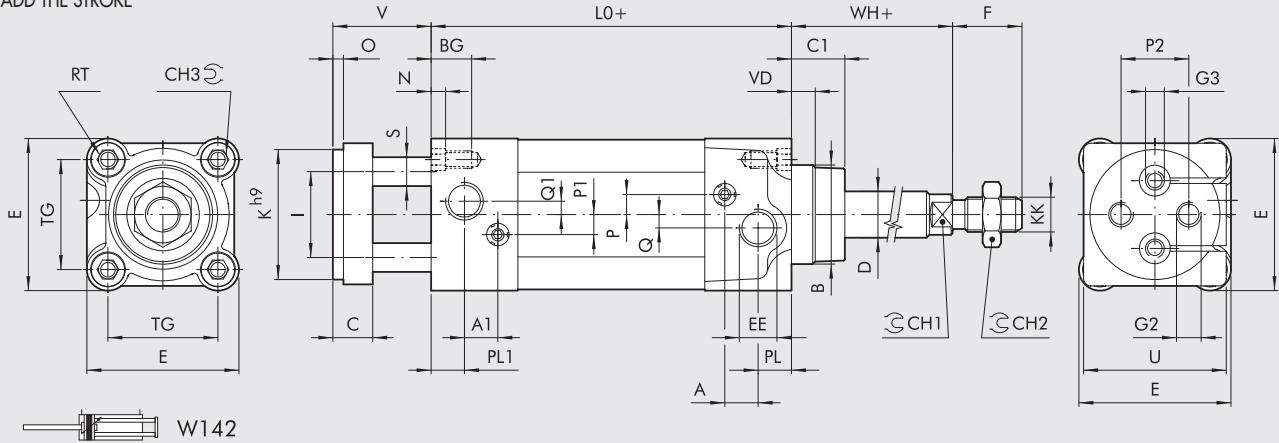


W140

Ø	PL	PL1	A	A1	B	CH3	TG	VA	EE	RT	E	L0	BG	N	P	P1	P2	Q	Q1	C	I	K <sup>h9</sup>	S	O	V	U	G2	G3
32	10	13	10	10.5	30	6	32.5	4	G1/8	M6	46	100	14.5	4.5	6	8	19	4	-	15	18	32	10	4	40	45	M6	-
40	12	12	10	10	35	6	38	4	G1/4	M6	54	100	14.5	4.5	6	6	22	4	4	15	22	40	10	4	40	49	M8	-
50	14	14	10	10	40	8	46.5	4	G1/4	M8	64.5	106	17.5	5.5	6	6	30	6	6	18	30	50	12	5	43	54	M8	M8
63	16	16	10	10	45	8	56.5	4	G3/8	M8	75.5	116	17.5	5.5	6	6	38	6	6	22	38	63	16	5	47	69	M10	M10
80	18	18	12	12	45	10	72	4	G3/8	M10	94	131	21.5	5.5	10	10	50	7	7	25	48	80	22	5	50	89	M12	M12
100	20	20	12	12	55	10	89	4	G1/2	M10	111	138	21.5	5.5	10	10	70	7	7	25	60	100	22	5	50	109	M12	M12

**SINGLE THROUGH-ROD CYLINDER**

+ = ADD THE STROKE



ACTUATORS

TWIN-ROD CYLINDER - SERIES TWNC

Ø	PL	PL1	A	A1	B	CH1	CH2	CH3	TG	EE	RT	E	L0	BG	N	P	P1	P2	Q	Q1	C	C1	D	F	I	K <sup>h9</sup>	KK	S	O	V	VD	U	G2	G3	WH
32	10	13	10	10.5	30	10	17	6	32.5	G1/8	M6	46	100	14.5	4.5	6	8	19	4	-	15	16	12	22	18	32	M10x1.25	10	4	40	6.5	45	M6	-	26
40	12	12	10	10	35	13	19	6	38	G1/4	M6	54	100	14.5	4.5	6	6	22	4	4	15	20	16	24	22	40	M12x1.25	10	4	40	8	49	M8	-	30
50	14	14	10	10	40	17	24	8	46.5	G1/4	M8	64.5	106	17.5	5.5	6	6	30	6	6	18	25	20	32	30	50	M16x1.5	12	5	43	13	54	M8	M8	37
63	16	16	10	10	45	17	24	8	56.5	G3/8	M8	75.5	116	17.5	5.5	6	6	38	6	6	22	25	20	32	38	63	M16x1.5	16	5	47	14	69	M10	M10	37
80	18	18	12	12	45	22	30	10	72	G3/8	M10	94	131	21.5	5.5	10	10	50	7	7	25	33	25	40	48	80	M20x1.5	22	5	50	12	89	M12	M12	46
100	20	20	12	12	55	22	30	10	89	G1/2	M10	111	138	21.5	5.5	10	10	70	7	7	25	38	25	40	60	100	M20x1.5	22	5	50	14	109	M12	M12	51

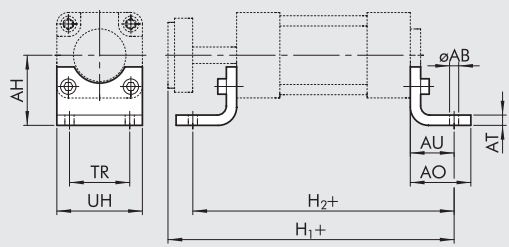
**KEY TO CODES**

CYL	W 1 4 0 TYPE	0 3 2 BORES	0 0 2 5 STROKE	+ Maximum recommended strokes. Higher values can create operating problems.
W140	Double-acting cylinder, magnetic, cushioned	032 040 050 063 080 100	+ 0025 to 0500 mm	
W142	Double-acting cylinder, magnetic, cushioned single through-rod			

**ACCESSORIES: FIXINGS**

**FOOT - MODEL A/S**

+ = ADD THE STROKE

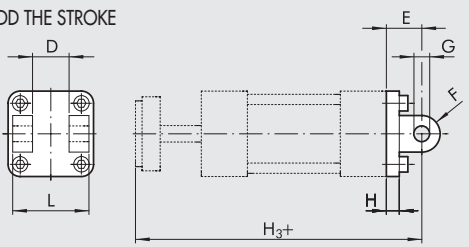


Code	Ø	AB	AH	AO	AT	AU	TR	UH	H <sub>1</sub>	H <sub>2</sub>	Weight [g]
W0950323001	32	7	32	35	4	24	32	45	164	148	76
W0950403001	40	9	36	43	4	28	36	52	168	156	98
W0950503001	50	9	45	47	4	32	45	65	181	170	156
W0950633001	63	9	50	47	6	32	50	75	195	180	246
W0950803001	80	12	63	61	6	41	63	95	222	213	406
W0951003001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

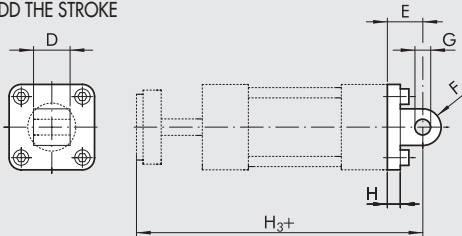


Code	Ø	D	E	F	G	H	H <sub>3</sub>	L	Weight [g]
W0950322003	32	26	22	11	10	10	162	45	116
W0950402003	40	28	25	13	12	10	165	52	160
W0950502003	50	32	27	13	12	12	176	60	252
W0950632003	63	40	32	17	16	12	195	70	394
W0950802003	80	50	36	17	16	16	217	90	670
W0951002003	100	60	41	21	23	16	229	110	1085

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

**MALE HINGE - MODEL BA**

+ = ADD THE STROKE

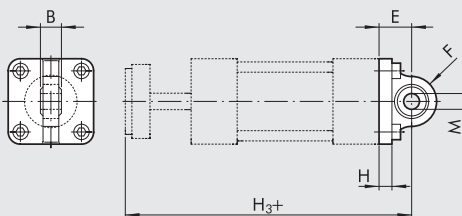


Code	Ø	D	E	F	G	H	H <sub>3</sub>	Weight [g]
W0950322004	32	26	22	11	10	10	162	94
W0950402004	40	28	25	13	12	10	165	124
W0950502004	50	32	27	13	12	12	176	220
W0950632004	63	40	32	17	16	12	195	316
W0950802004	80	50	36	17	16	16	217	578
W0951002004	100	60	41	21	20	16	229	850

Note: Supplied with 4 screws, 4 washers

**ARTICULATED MALE HINGE - MODEL BAS**

+ = ADD THE STROKE

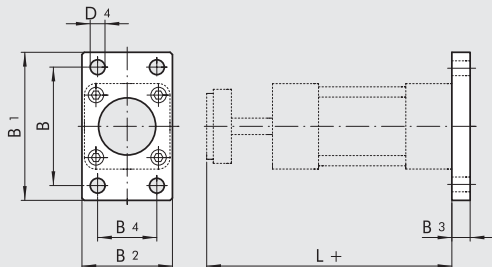


Code	Ø	B	E	F	H	H <sub>3</sub>	M	Weight [g]
W0950322006	32	14	22	16	10	162	10	106
W0950402006	40	16	25	18	10	165	12	142
W0950502006	50	16	27	21	12	176	12	236
W0950632006	63	21	32	23	12	195	16	336
W0950802006	80	21	36	28	16	217	16	572
W0951002006	100	25	41	30	16	229	20	840

Note: Supplied with 4 screws, 4 washers.

**REAR FLANGE - MODEL C**

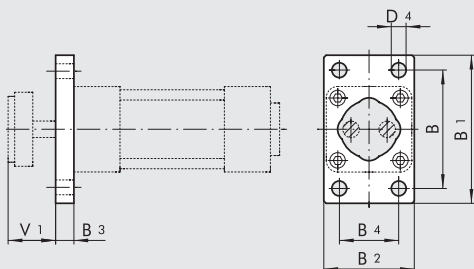
+ = ADD THE STROKE



Code	Ø	B	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>	D <sub>4</sub>	L	Weight [g]
W0950322002	32	64	80	50	10	32	7	140	246
W0950402002	40	72	90	55	10	36	9	140	290
W0950502002	50	90	110	65	12	45	9	149	522
W0950632002	63	100	120	75	12	50	9	163	670
W0950802002	80	126	153	95	16	63	12	181	1420
W0951002002	100	150	178	115	16	75	14	188	2040

Note: Supplied with 4 screws.

**FRONT FLANGE - MODEL C/S**



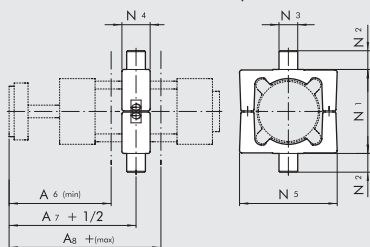
Code	Ø	B	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>	D <sub>4</sub>	V <sub>1</sub>	Weight [g]
W0950323002	32	64	80	50	10	32	7	30	228
W0950403002	40	72	90	55	10	36	9	30	288
W0950503002	50	90	110	65	12	45	9	31	486
W0950633002	63	100	120	75	12	50	9	35	569
W0950803002	80	126	153	95	16	63	12	34	1145
W0951003002	100	150	178	115	16	75	14	34	1760

Note: Supplied with 4 screws

**INTERMEDIATE HINGE - MODEL EN**

+ = ADD THE STROKE

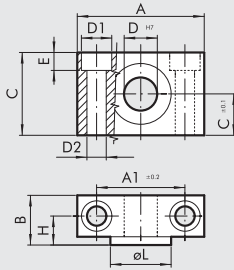
+1/2 = ADD HALF THE STROKE



Code	Ø	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	N <sub>4</sub>	N <sub>5</sub>	A <sub>6</sub>	A <sub>7</sub>	A <sub>8</sub>	Weight [g]
0950322007	32	50	12	12	22	65	79	91	103	282
0950402007	40	63	16	16	28	75	82	90	98	582
0950502007	50	75	16	16	32	95	91.5	97.5	103.5	880
0950632007	63	90	20	20	35	105	95.5	104.5	113.5	1230
0950802007	80	110	20	20	40	130	108	115.5	123	2030
0951002007	100	132	25	25	45	145	110.5	119	127.5	2600

Note: Supplied with 4 screws, 2 pin

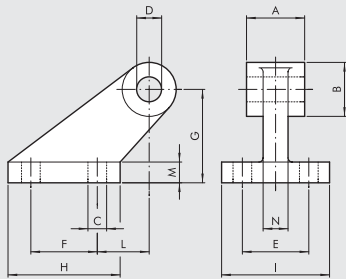
COUNTER-HINGE FOR MODEL EN - MODEL EL



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

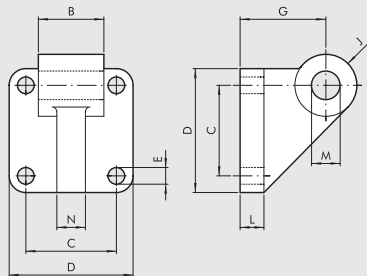
COUNTER-HINGE CETOP FOR MODEL B - MODEL GL



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 ISO FOR MODEL B - MODEL GS

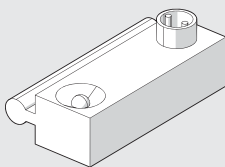


Code	Ø	B	C	D	E	G	J	L	M	N	Weight [g]
W0950322108	32	25.5	32.5	45	7	32	11	10	10	10	106
W0950402108	40	27.5	38	52	7	36	13	10	12	12	138
W0950502108	50	31.5	46.5	65	9	45	13	12	12	12	252
W0950632108	63	39.5	56.5	75	9	50	17	12	16	15	350
W0950802108	80	49.5	72	95	11	63	17	16	16	15	655
W0951002108	100	59.5	89	115	11	73	21	20	20	22	980

Note: Supplied with 4 screws, 4 washers

ACCESSORIES: MAGNETIC SENSORS

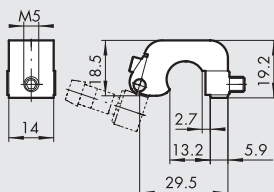
SENSOR SERIES DSM



For codes and technical data, see chapter A6.

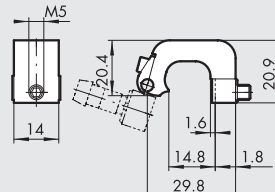
SENSOR SUPPORT BRACKETS FOR SENSORS DSM

Ø 32 to 40



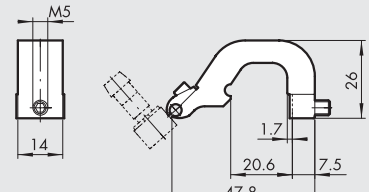
Code	Description
W0950000711	Bracket D.32-40 DST 80

Ø 50 to 63



Code	Description
W0950000712	Bracket D.50-63 DST 81

Ø 80 to 100

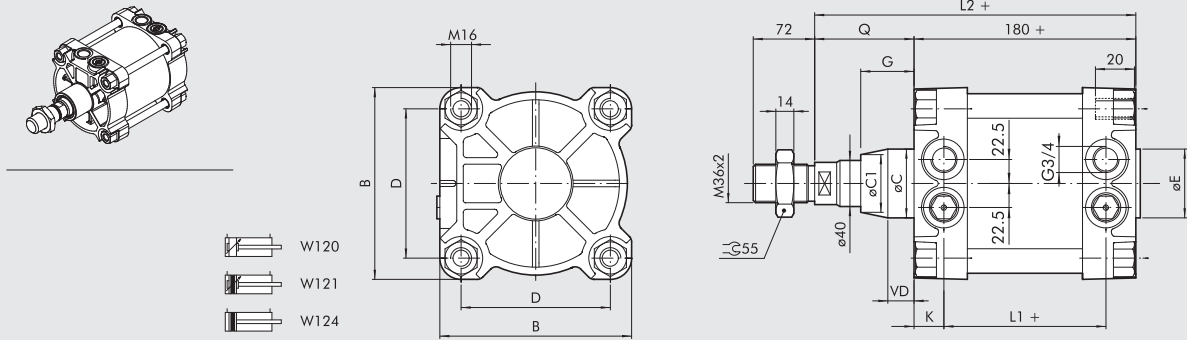


Code	Description
W0950000713	Bracket D.80-100-125 DST 82



**DIMENSIONS OF STANDARD VERSION**

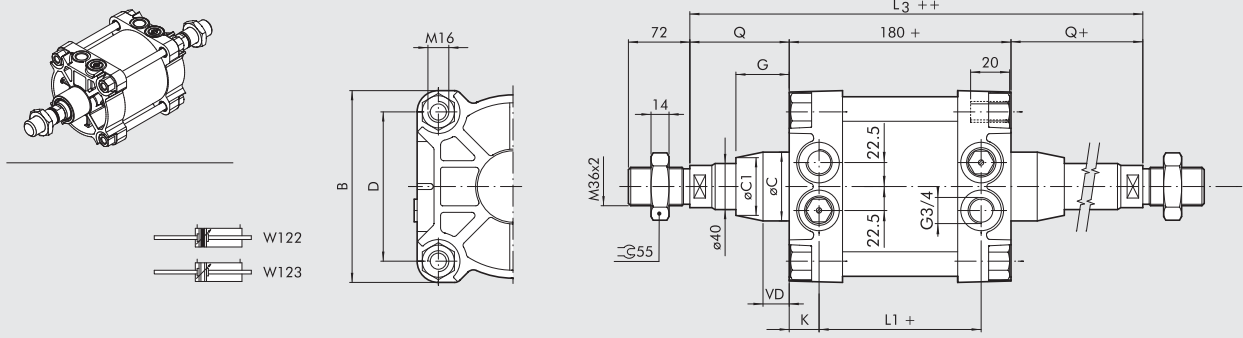
+ = ADD THE STROKE



Ø	B	eC	eC1	eE	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**

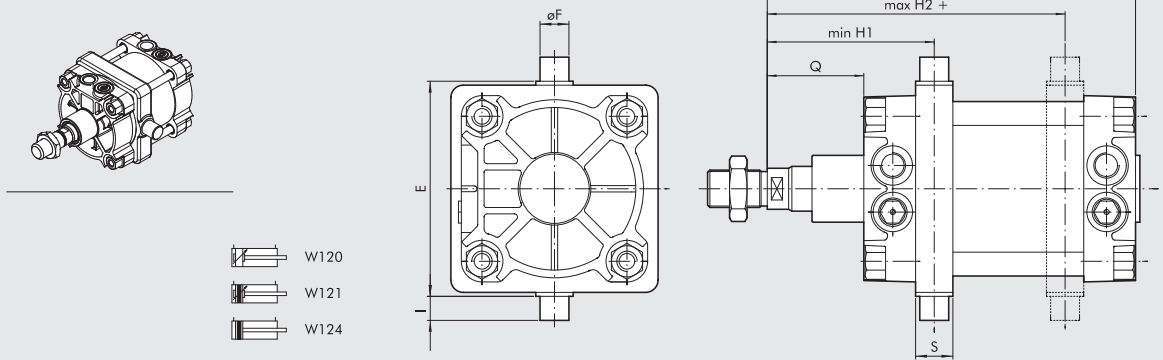
+ = ADD THE STROKE  
 ++ = ADD TWICE THE STROKE



Ø	B	eC	eC1	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



Ø	E	eF	H1	H2	I	L2	Q	S
160	200	32	150	190	32	260	80	40
200	250	32	165	205	32	275	95	40

For the missing values, refer to standard cylinders. In your order, please specify the desired value for H1



## KEY TO CODES FOR ROUND BARREL

CYL	W 1 2 1 TYPE	1 6 0 DIAMETER-EXECUTION	0 0 5 0 STROKE	0 2 0 0 EXECUTION
	W120 Double-acting, cushioned, non magnetic	160 160	+ 0025 to 2800 mm	Specify H1 value ONLY for version with intermediate hinge
	W121 Double-acting, cushioned,	200 200		
	W122 Double-acting, cushioned, through-rod	XA3 160 stainless steel piston rod		
	W123 Double-acting, cushioned, through-rod, non magnetic	XA4 200 stainless steel piston rod		
	W124 Double-acting, non-cushioned	VA3 160 FKM/FPM gasket, stainless steel piston rod		
		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		
		AA3 160 + intermediate hinge		
		AA4 200 + intermediate hinge		
		● GA3 160 No stick-slip		
		● GA4 200 No stick-slip		

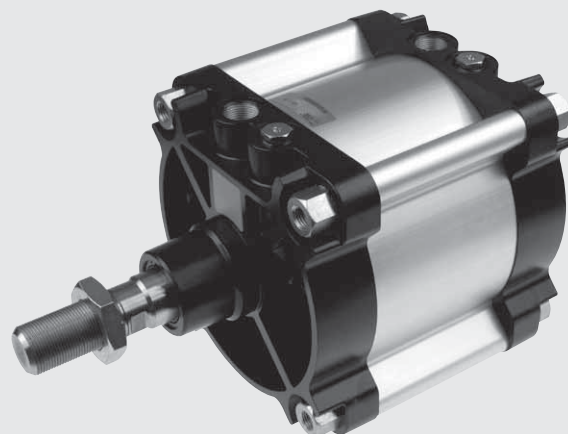
- + Maximum recommended strokes. Higher values can create operating problems
- For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only

## 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

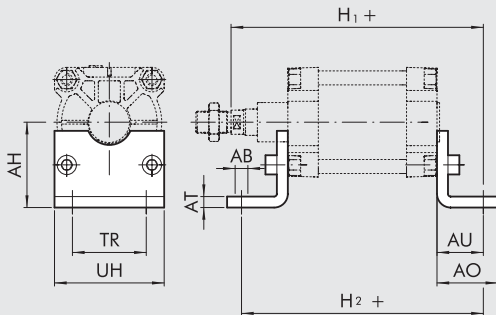
CYL	1 2 1 TYPE	1 6 0 DIAMETER-EXECUTION	0 0 5 0 STROKE	A MATERIAL	N GASKETS
	120 Double-acting, cushioned, non-magnetic	160 160	+ 0025 to 2800 mm	A C45 chromed, piston rod	N NBR gaskets
	121 Double-acting, cushioned,	200 200		Z Stainless steel chromed, piston rod	V FKM/FPM gaskets
	122 Double-acting,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

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

## FOOT - MODEL A

+ = ADD THE STROKE

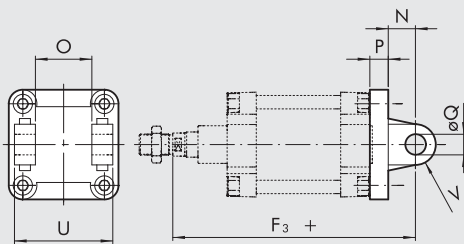


Code	Ø	AB	AH	AO	AT	AU	H <sub>1</sub>	H <sub>2</sub>	TR	UH	Weight [g]
W0951602001	160	18	115	80	10	60	319	300	115	180	2400
W0952002001	200	22	135	100	12	70	345	320	135	220	4000

Note: Individually packed with 2 screws

## FEMALE HINGE - MODEL B

+ = ADD THE STROKE

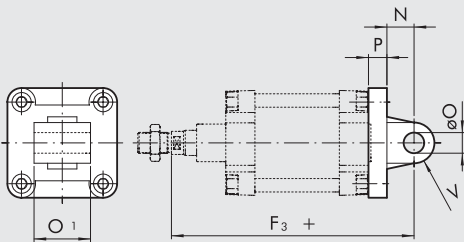


Code	Ø	U	O	øQ	P	N	F <sub>3</sub>	V	Weight [g]
W0951602003	160	170	90	30	20	35	314	25	3300
W0952002003	200	170	90	30	25	35	335	25	4300

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

## MALE HINGE - MODEL BA

+ = ADD THE STROKE

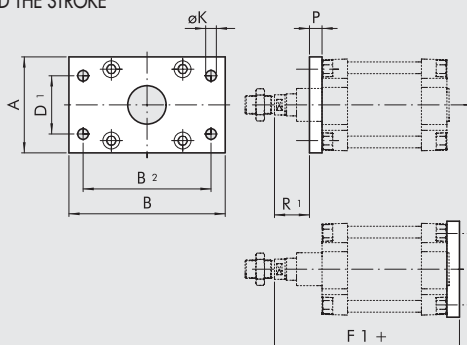


Code	Ø	O <sub>1</sub>	øO	P	N	F <sub>3</sub>	V	Weight [g]
W0951602004	160	90	30	20	35	314	25	2150
W0952002004	200	90	30	25	35	335	25	3550

Note: Supplied complete with 4 screws

## FLANGE - MODEL C (FRONT AND REAR)

+ = ADD THE STROKE

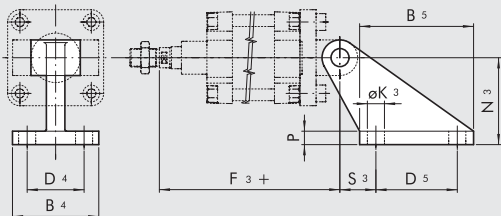


Code	Ø	A	B	B <sub>2</sub>	D <sub>1</sub>	øK	R <sub>1</sub>	P	F <sub>1</sub>	Weight [g]
W0951602002	160	180	270	230	115	18	59	20	279	6900
W0952002002	200	225	312	270	135	22	70	25	300	12800

Note: Individually packed with 4 screws

**CETOP COUNTER-HINGE - MODEL GL**

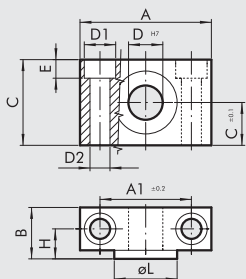
±= ADD THE STROKE



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

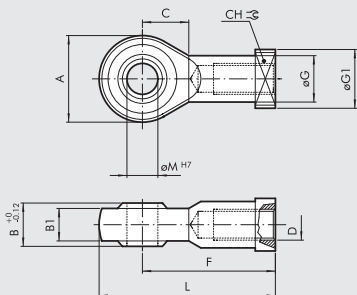
**COUNTER-HINGE MODEL EL**



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

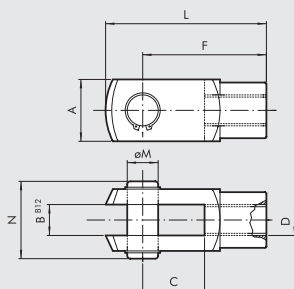
**ROD EYE - MODEL GA-M**



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

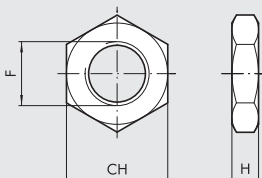
**FORK - MODEL GK-M**



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**



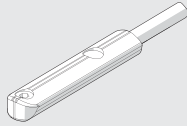
Code	Ø	F	H	CH	Weight [g]
W0951602010	160	M36x2	14	55	170
W0951602010	200	M36x2	14	55	170

Note: Individually packed

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

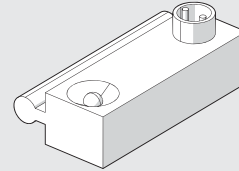
### RETRACTABLE SENSOR

SENSOR, OVAL TYPE  
Traditional



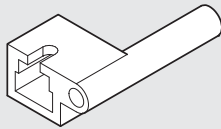
For codes and technical data, see **chapter A6**.

### SENSOR SERIES DSM



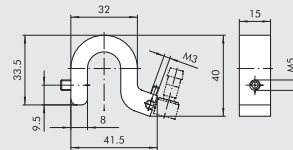
For codes and technical data, see **chapter A6**.

### ADAPTOR FOR RETRACTABLE SENSOR



Code	Description
W0950001001	Adaptor DSS005 for DST/ST brackets

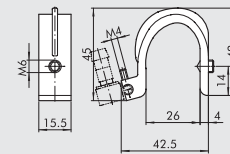
### SENSOR SUPPORT BRACKET FOR STANDARD VERSION (WITH ROUND BARREL)



Code	Description
0951602093	Bracket 160-200

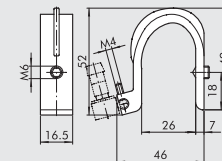
### SENSOR SUPPORT BRACKET FOR OLD VERSION BARREL (SHAPED)

Ø 160



Code	Description
W0950000715	Bracket ST 160

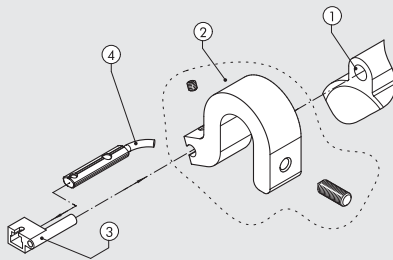
Ø 200



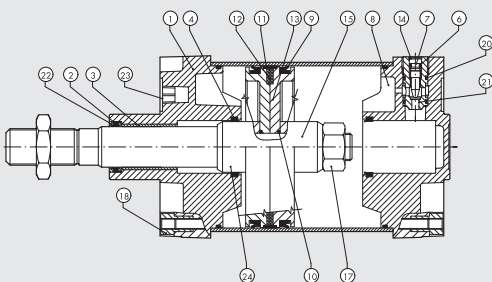
Code	Description
W0950000716	Bracket ST 200

### ASSEMBLY DIAGRAM

- ISO 15552 cylinder with traditional barrel
- Sensor bracket mod. ST (Ø 160 and 200)
- Adaptor
- Retractable sensor "oval type"



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

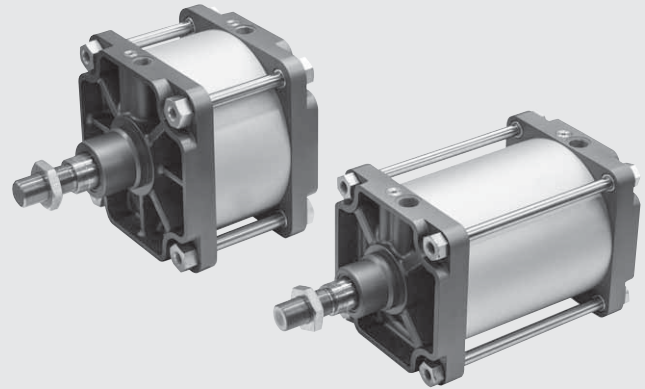


Code	Bores	Type	Parts
W095__2101	160 - 200	Complete set of gaskets	2-4-5-6-9-10-20-22
W0951602165	160 - 200	NBR piston rod gasket kit + seeger	2
W0951602166	160 - 200	FKM/FPM piston rod gasket kit + seeger	2
W095__2102	160 - 200	Complete set of (high temperature) FKM/FPM gaskets	2-4-5-6-9-10-20-22
W095__0104	160 - 200	Complete front head kit	1-2-3-4-5-6-7-14-18-20-21-22-23
W095__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

# ISO 15552 CYLINDER Ø 250-320

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

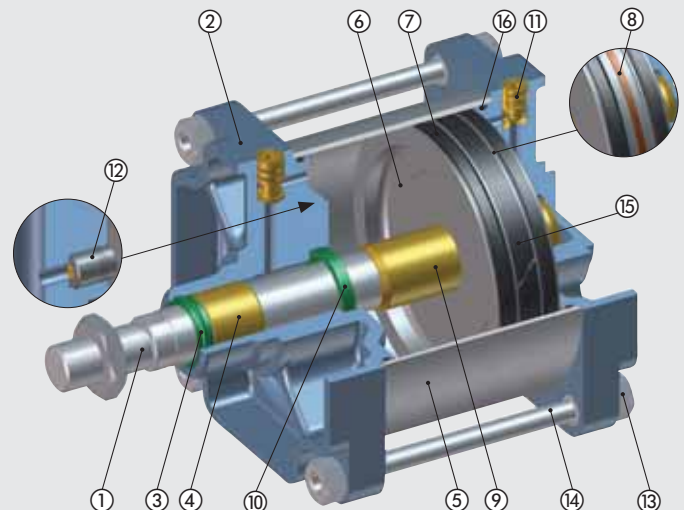
- double-acting – single- or through-rod
- with or without cushioning
- configuration with or without magnet
- with NBR gaskets, and polyurethane gasket for the piston rod only
- with FKM/FPM gaskets (high temperature versions)
- available with mounted intermediate hinge
- special configurations on request



TECHNICAL DATA		NBR	FKM/FPM
Max operating pressure	bar	10	
	MPa	1	
	psi	145	
Temperature range	°C	-10 to +80	-10 to +150
Fluid		Unlubricated air. Lubrication, if used, must be continuous	
Bores	mm	250 and 320	
Design		Round barrel with tie rods	
Standard strokes	mm	from 1 to 2000	
Versions		Double-acting, Cushioned or non-cushioned, Single piston rod or cushioned through piston rod, High-temperature, No stick-slip	
Magnet for sensors		Versions with or without magnet	
Inrush pressure		Ø 250: 0.2 bar / Ø 320: 0.15 bar	
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

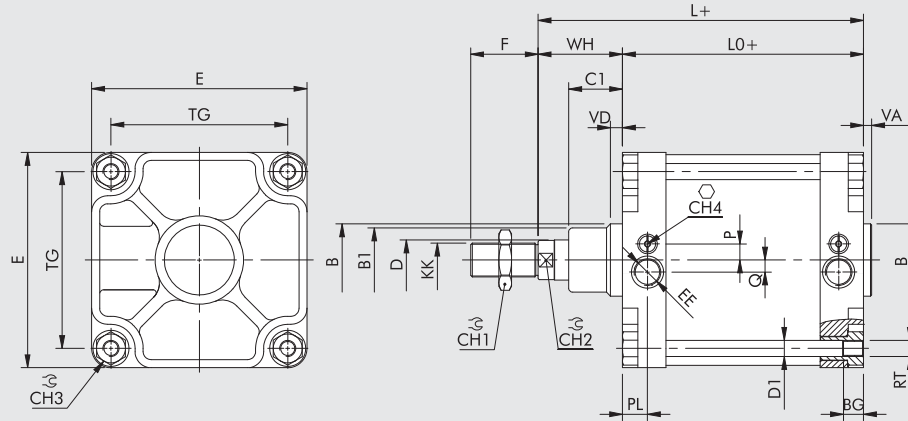
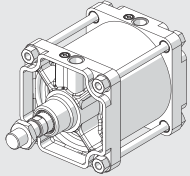
- PISTON ROD: High thickness C45 chrome steel or stainless steel (AISI 304)
- HEAD: fused aluminum painted
- PISTON ROD GASKET: polyurethane or FKM/FPM
- GUIDE BUSHING: sintered bronze
- BARREL: anodised aluminium
- PISTON: aluminium
- PISTON GASKET: NBR or FKM/FPM
- MAGNET: plastoferrite
- CUSHIONING 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: galvanised steel
- TIE RODS: C45 steel, chromed
- GUIDE BELT: PTFE
- STATIC O-RINGS: NBR or FKM/FPM



**DIMENSIONS**

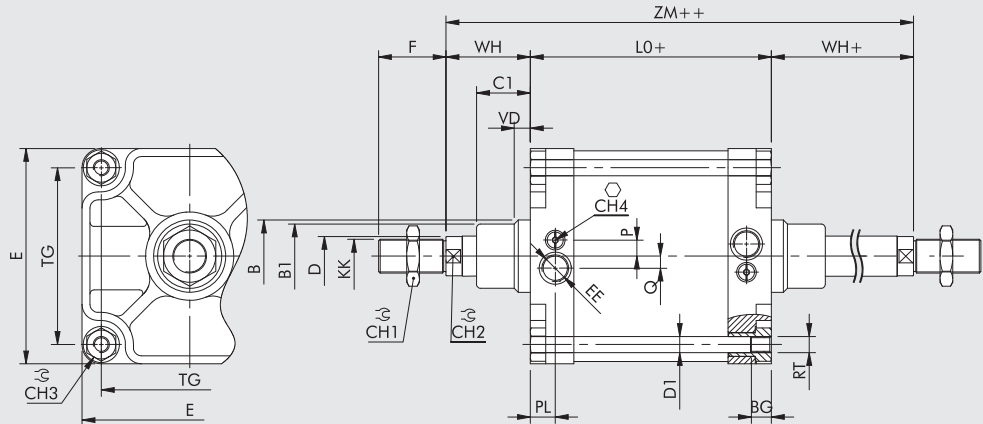
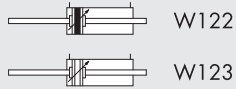
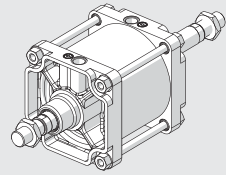
**STANDARD VERSION**

+ = ADD THE STROKE



**THROUGH-ROD VERSION**

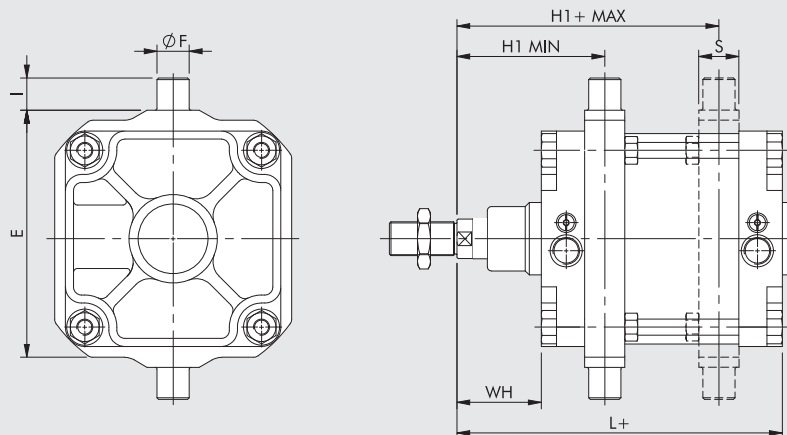
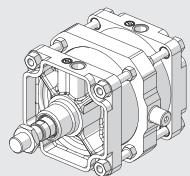
+ = ADD THE STROKE  
++ = ADD TWICE THE STROKE



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	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



Ø	E	ØF	H1 <sub>min</sub>	H1 <sub>max</sub>	I	L	WH	S
250	320	40	184	226	40	305	105	50
320	400	50	212	248	50	340	120	70

For the missing values, refer to standard cylinders. In your order, please specify the desired value for H1

KEY TO CODES

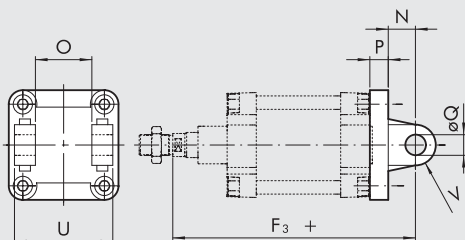
CIL	W 1 2 1 TYPE	2 5 0 DIAMETER-EXECUTION	0 3 0 0 STROKE	0 2 0 0 EXECUTION
W120	Double-acting, cushioned, non magnetic	250 250 320 320	0001 to 2000 mm	Specify H1 value ONLY for version with intermediate hinge
W121	Double-acting, cushioned	XA5 250 stainless steel piston rod and nut		
W122	Double-acting, 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, C45 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

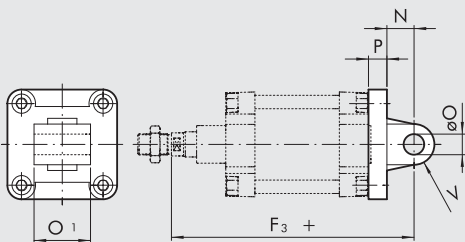


Code	Ø	U	O	øQ	P	N	F <sub>3</sub>	V	Weight [g]
W0952502003	250	200	110	40	25	45	375	40	7600
W0953202003	320	220	120	45	30	50	420	45	13200

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

MALE HINGE - MODEL BA

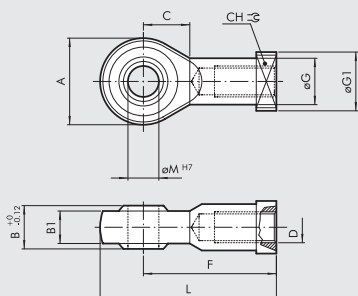
+ = ADD THE STROKE



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

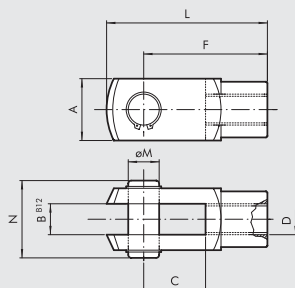
ROD EYE - MODEL GA-M



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

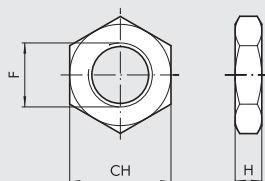
## FORK - MODEL GK-M



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

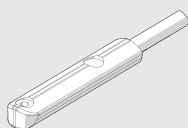
Note: Individually packed

## ACCESSORIES: MAGNETIC SENSORS

### RETRACTABLE SENSOR

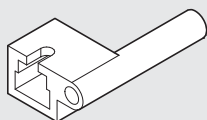
#### SENSOR, OVAL TYPE

Traditional



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

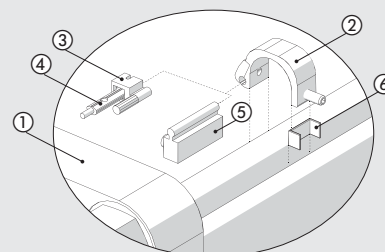
### ADAPTOR FOR RETRACTABLE SENSOR



Code	Description
W0950001001	Adaptor DSS005 for DST/ST brackets

### ASSEMBLY DIAGRAM

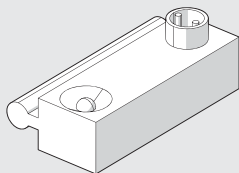
- ① ISO 15552 cylinder, round pipe with tie rods
- ② Sensor bracket mod. ST (Ø 250 and 320)
- ③ Adaptor for retractable sensor
- ④ Retractable sensor
- ⑤ Sensor DSM
- ⑥ Adaptor (only for Ø 250)





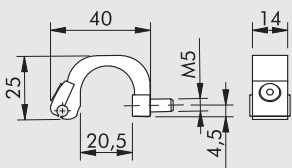
**SENSOR SERIES DSM**

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



**SENSOR SUPPORT BRACKET**

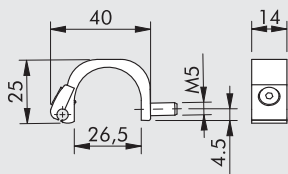
Ø 250



**Code**  
W0950000722

**Description**  
Bracket ST250

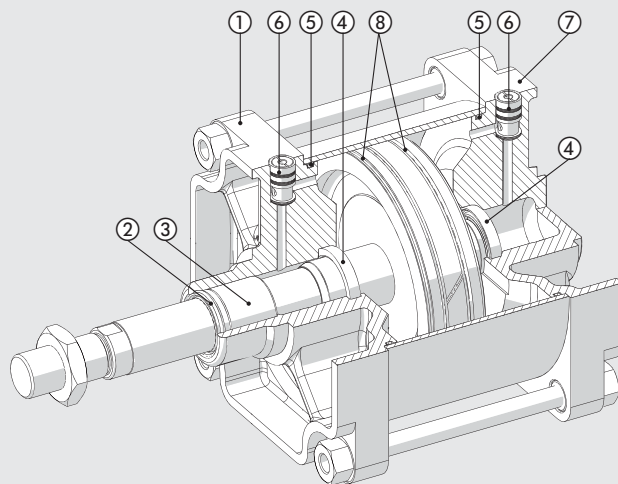
Ø 320



**Code**  
W0950000723

**Description**  
Bracket ST320

**SPARE PARTS**



Code	Bores	Type	Parts
W095 . . . 02101	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 . . . 00104	250 - 320	Complete front head kit	1-2-3-4-5-6
W095 . . . 00105	250 - 320	Complete rear head kit	4-5-6-7