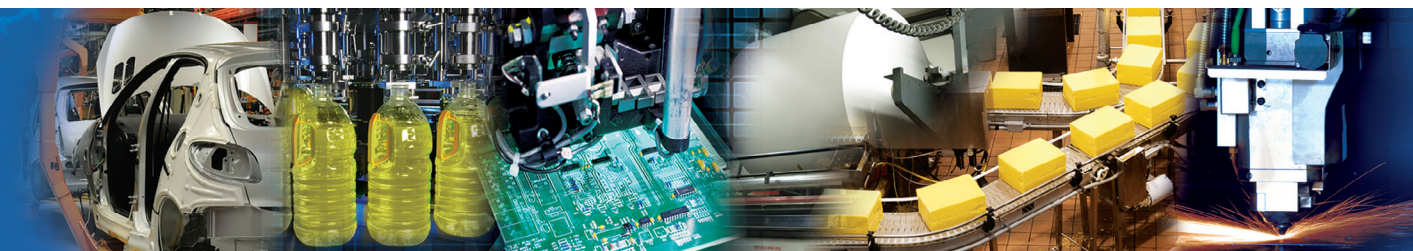


# NUMATICS®

## 449 Series

Compact Cylinder to ISO 21287



[www.asco.com](http://www.asco.com)



**EMERSON**

**BCAE**  
Automation Solutions

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# NUMATICS®

**Numatics, Inc. is a leading manufacturer of pneumatic products and motion control products.** Our broad spectrum of standard, custom developed products and application components, have made a significant impact on pneumatic innovation as well as pneumatic and motion control technology. Our company has an extensive history of generating innovative concepts and technological breakthroughs. Many of today's standard features in pneumatic technology were industry firsts from Numatics. We continue our innovative approach to product development by developing electric motion control solutions and enhancing our embedded Fieldbus and I/O products to continually meet and solve our customer's application requirements.



**Today Numatics is proud to be a part of Emerson Electric Co.**

Emerson (NYSE:EMR), based in St. Louis, Missouri (USA), is a global leader in bringing technology and engineering together to provide innovative solutions for customers in industrial, commercial, and consumer markets through its network power, process management, industrial automation, climate technologies, and appliance and tools businesses. For more information, visit [www.Emerson.com](http://www.Emerson.com).



**EMERSON™**



Numatics Express Shipping Program guarantees<sup>†</sup> product shipment in two, three or five business days. Unlike most traditional quick ship programs, the Numatics Express Shipping Program includes the most comprehensive offering in the industry. This program encompasses the range and options that you require!

Numatics is committed to offering you the highest level of customer service, quality and performance.

## 2DAY

Numatics Express 2Day shipping program guarantees<sup>†</sup> product shipment in two business days. The program includes the most popular valve, air preparation and actuator products and includes applicable switches and mounting accessories.

Numatics guarantees<sup>†</sup> to ship any order received before 3 pm EST for up to 10 2Day products\* in two business days.

## 3DAY

Numatics Express shipping program offers a 3Day shipping program that guarantees<sup>†</sup> product shipment of a fully assembled and tested valve manifold in 3 business days. The program includes the most popular manifold configurations of the 2000 and Mark series valves:

- Sub D, Terminal Strip and Fieldbus Electronic Options
- Can be configured for DIN Rail Mounting and Muffled Exhaust
- Shipped complete and 100% tested

The 3Day Express shipping program enables you to create a 2 to 8 station manifold assembly complete with any combination of valves, regulators, and blank stations that can be configured from the valve model charts in this catalog.

Numatics guarantees<sup>†</sup> to ship any order received before 3 pm EST for up to 5 manifold assemblies configured from this catalog in three business days or Numatics pays the shipping cost.

## 5DAY

We are pleased to expand Numatics Express to include a broad range of products in a 5Day shipping program. Numatics guarantees<sup>†</sup> to ship up to 10 of any 5Day product\*\* for orders received before 3 pm EST in 5 business days or Numatics pays the shipping cost.

We are committed to providing you with an unmatched level of customer service, quality, and reliability. If you cannot locate the specific product for your application or need additional product specifications, visit [www.numatics.com](http://www.numatics.com) or call **888-686-2842**. Numatics Express orders cannot be canceled or adjusted once entered. Saturdays, Sundays, and Holidays are excluded.

<sup>†</sup>As industry requirements change, Numatics reserves the right to modify the contents of this catalog and program without notification. Updates on this program can be obtained from the Numatics website [www.numatics.com](http://www.numatics.com) or by calling 888-686-2842, or by contacting your local Numatics representative or distributor and referencing the Numatics Express program.

**\*Sentronic<sup>®</sup> Proportional Valves, CGT Compact Slides, NR Series Rodless and Air Bellows are limited to orders up to 5.**

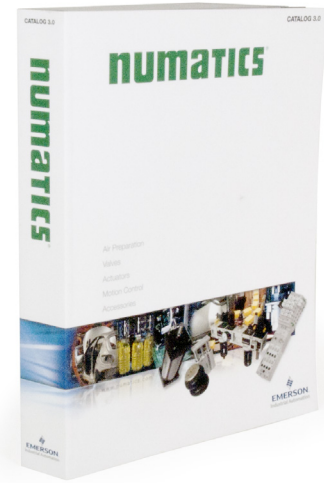
**\*\*A Series Large Bore NFPA, ASP Series Steel Body NFPA and G Series Guide Rail Rodless are limited to orders up to 5.**



# Welcome to the World of Fluid Automation...

Since 1945, Numatics has emerged as the prominent specialist in developing and manufacturing pneumatic and fluid power components for a widely diverse field of automated industry. From idea to implementation, leading engineers choose Numatics as their single source for:

- Quality Fluid Power components
- Technologically advanced design resources
- Quick response time in delivery and service from around the world



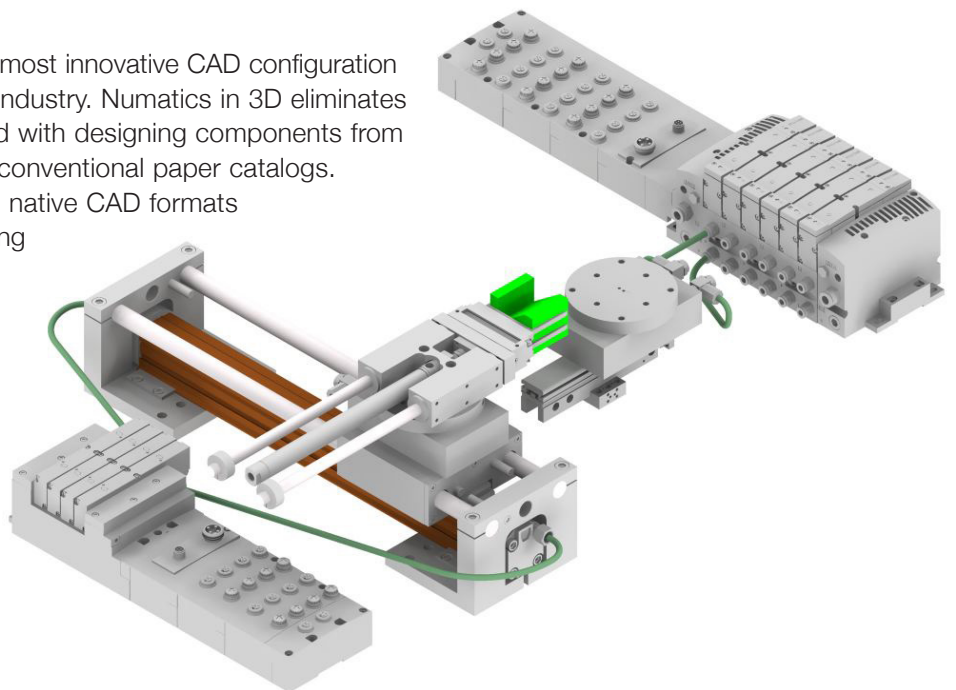
## Numasizing®

Developed by Numatics, Numasizing® offers a whole new level of fluid power system optimization. Compare large amounts of component and process data against user objectives and industry benchmarks for the best possible size, pneumatic pressure, actuator stroke velocities and other part and process variable determinations.

## CAD Modeling

Save critical development time with the most innovative CAD configuration program in the pneumatic component industry. Numatics in 3D eliminates the time consuming process associated with designing components from scratch based on information found in conventional paper catalogs.

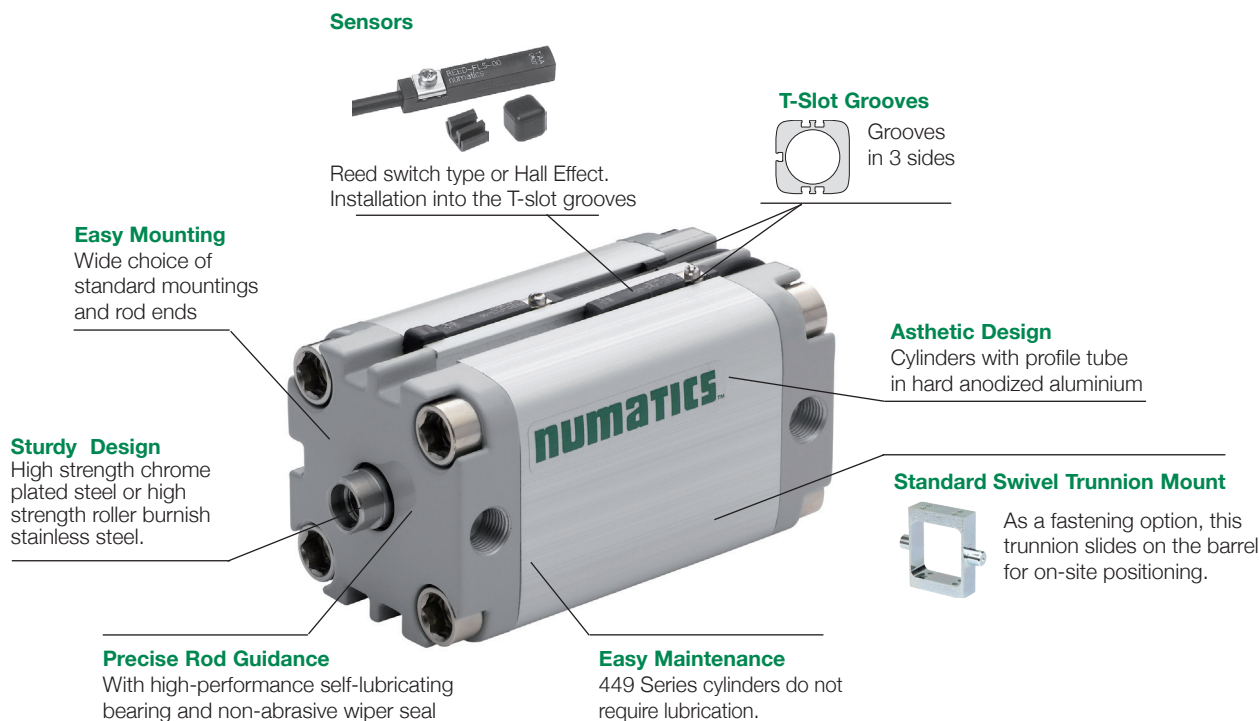
The models are available in 85 different native CAD formats in 2D drawings and 3D models, including all the popular formats including Catia, I-DEAS, Pro/Engineer, SolidWorks, IGraphics and more.



## Series 449

Features and Benefits	2
How to Order	3
Single and Double Rod Dimensions	4-5
Cylinder Standard Mount Information	6-13
Sensor Information	14-16

The 449 Series is an aluminum body air cylinder line that is designed to meet all ISO 21287 requirements. The 449 Series cylinder is ideal for compact automation using 50% less space. Expertly engineered, this new and improved profile tube design offers a lighter, cleaner cylinder.



**General**

<b>Detection</b>	Equipped with magnet for position sensing
<b>Fluid</b>	Compressed Air
<b>Max. Operating pressure</b>	145 psi (10 Bar)
<b>Ambient temperature</b>	-4°F to + 158°F (-20°C to + 70°C)
<b>Max. speed rate</b>	0.5 m/s
<b>Standards</b>	ISO 21287 ISO 15552
<b>Minimum pressure to compress the spring</b>	Ø20-50 = 14.5 PSI (1 bar) Ø63-100 = 9.4 PSI (.65 bar)

The return of the piston rod must be without load (single acting version)

**Construction**

<b>Tube</b>	Hard anodized aluminium alloy	
<b>Head and Cap</b>	Aluminium alloy	
<b>Bearing</b>	Self-lubricating metal	
<b>Piston Rod</b>	Ø20 - 25: Roller Burnished Stainless Steel Ø32 - 100: Hard Chrome Plated Steel	
<b>Rod End</b>	Male or female	
<b>Piston</b>	POM (polyacetal) or light alloy	
<b>Piston seals</b>	PUR (polyurethane)	
<b>Tooling Plate</b>	Tooling plate	Aluminium alloy
	Guide Rod	Ø20 - 100: Stainless Steel Ø20 - 100: Steel
	Guide Rod Bearing	Self-lubricating metal

### How to Order

**G 449 A 3 S K 0050 A00**

#### Thread Connection

G = ISO 228/1

#### Product Series

449 Series

#### Revision Letter

A = Revision Level

#### Bore (mm)

L = 20<sup>(1)</sup>      6 = 63  
 M = 25<sup>(1)</sup>      8 = 80  
 3 = 32      1 = 100  
 4 = 40  
 5 = 50

<sup>(1)</sup>Available in stainless steel rod end only.

#### Cylinder Type

S = Single Rod, Double Acting  
 1 = Single Rod, Spring Return  
 2 = Double Rod, Double Acting  
 3 = Single Rod, Spring Extend  
 4 = Double Acting with Tooling Plate

#### Rod Option

K = Female Rod Thread<sup>(2)</sup>  
 M = Male Rod Thread<sup>(2)</sup>  
 G = Female Rod Thread (303 Stainless Rod)  
 N = Male Rod Thread (303 Stainless Rod)

<sup>(2)</sup> Not available on 20 & 25mm bore sizes.

#### Options

A00 = No Option  
 C01 = Foot Bracket (Outside) Mount  
 C03 = Foot Bracket (Inside) Mount  
 C07 = Oscillating Bracket with Lugs  
 C08 = Oscillating Bracket with Wide Fork Type Mount  
 C13 = Spherical Eye Mount (Back Side)  
 C14 = Oscillating Bracket with Narrow Fork Type Mount  
 CD4 = Rod Clevis Mount Both Ends (Double Rod)  
 CD5 = Spherical Eye Mount Both Sides (Double Rod)  
 CF2 = Front Flange Mount  
 CF4 = Rod Clevis Mount  
 CF5 = Spherical Rod Eye Mount (Front Side)  
 CR2 = Rear Flange Mount  
 MT4 = Mid Trunnion (Axis Perpendicular to Ports)  
 MS4 = Mid Trunnion (Axis Parallel to Ports)  
 MS3 = High Foot Mount  
 AB7 = Angular Clevis Bracket  
 AB5 = Angular Clevis Bracket Spherical Bearing  
 CF6 = Alignment Compensator  
 01A = Front Rod Extension  
 01B = Rear Rod Extension  
 02A = Front Thread Extension  
 02B = Rear Thread Extension

Consult factory for combination options.

#### Recommended Standard Strokes (mm)

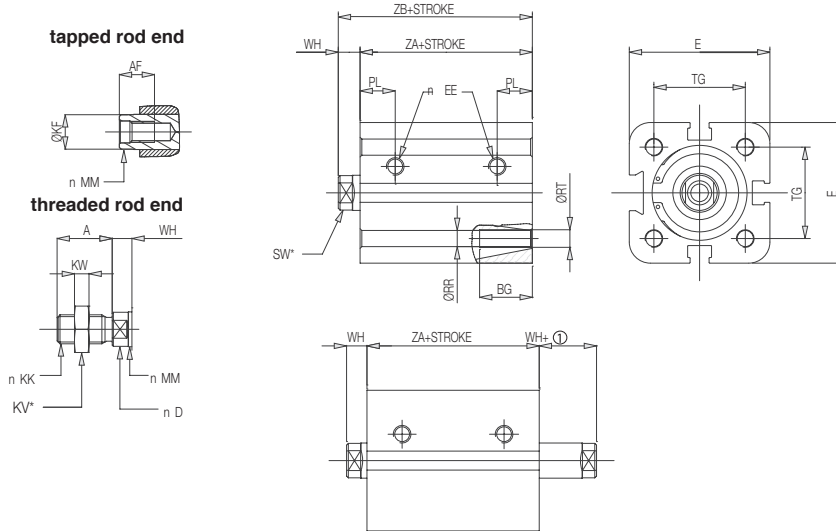
0005 = 5mm (Minimum Stroke)  
 0400 = 400mm (Maximum Stroke)  
<sup>(3)</sup> After 60mm of stroke the load must be properly supported.  
 D = Double acting only / SD = Single & Double acting



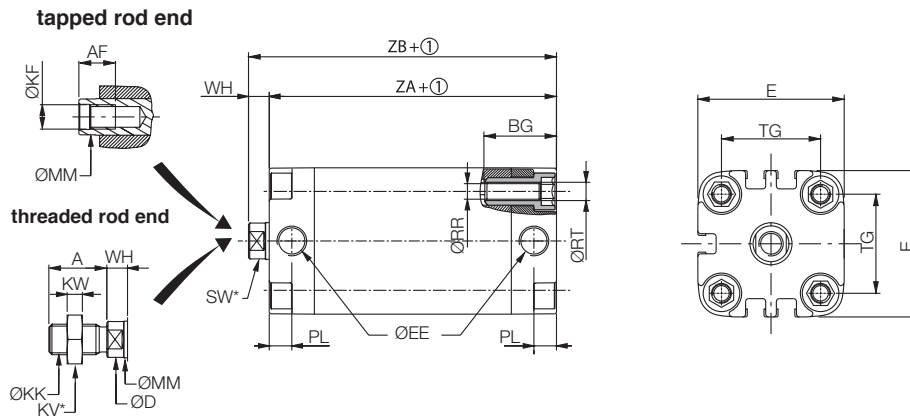
### Example Chart

Bore Ø mm	5	10	15	20	25	50	80	100	max. stroke	Rod antirotation device max. stroke
20	SD	SD	SD	D	D	D	D	D	60 <sup>(3)</sup>	60
25	SD	SD	SD	SD	D	D	D	D	60 <sup>(3)</sup>	60
32	SD	SD	SD	SD	SD	D	D	D	400	100
40	SD	SD	SD	SD	SD	D	D	D	400	100
50	SD	SD	SD	SD	SD	D	D	D	400	100
63	SD	SD	SD	SD	SD	D	D	D	400	100
80	SD	SD	SD	SD	SD	D	D	D	400	100
100	SD	SD	SD	SD	SD	D	D	D	400	100

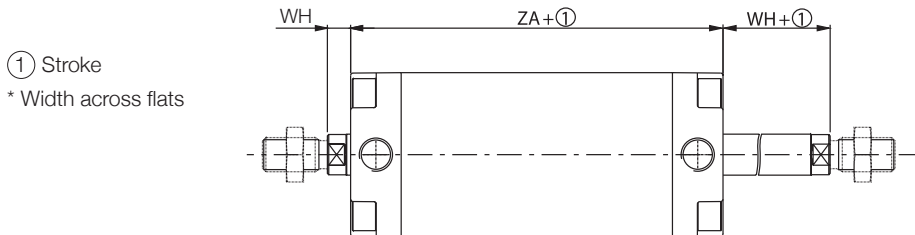
Single-Rod Type Cylinder Ø 20-25



Single-Rod Type Cylinder Ø 32-100



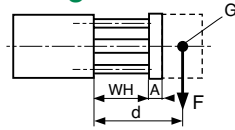
Double-Rod Cylinder



Bore Ø (mm)	A	AF	BG	ØD	E	EE	ØKF	ØKK	KV	KW	ØMM	PL	ØRR	ØRT	SW	TG	WH	ZA	ZB
20	16	10	15	9.8	36	M5	M6x1.0	M8x1.25	13	4	10	10	4.2	M5	8	22	6	37	43
25	16	10	15	9.8	40	M5	M6x1.0	M8x1.25	13	4	10	10	4.2	M5	8	26	6	39	45
32	19	12	23.5	11.8	48	G 1/8	M8x1.25	M10x1.25	16	5	12	7.5	5.1	M6	10	32.5	7	44	51
40	19	12	24	11.8	54	G 1/8	M8x1.25	M10x1.25	16	5	12	7.5	5.1	M6	10	38	7	45	52
50	22	16	24	15.8	66	G 1/8	M10x1.5	M12x1.25	18	6	16	7.5	6.7	M8	13	46.5	8	45	53
63	22	16	27.5	15.8	78	G 1/8	M10x1.5	M12x1.25	18	6	16	7.5	6.7	M8	13	56.5	8	49	57
80	28	20	28.5	19.8	96	G 1/8	M12x1.75	M16x1.50	24	8	20	8.5	8.4	M10	16	72	10	54	64
100	28	20	28.5	24.8	115	G 1/8	M12x1.75	M16x1.50	24	8	25	10	8.4	M10	21	89	10	67	77

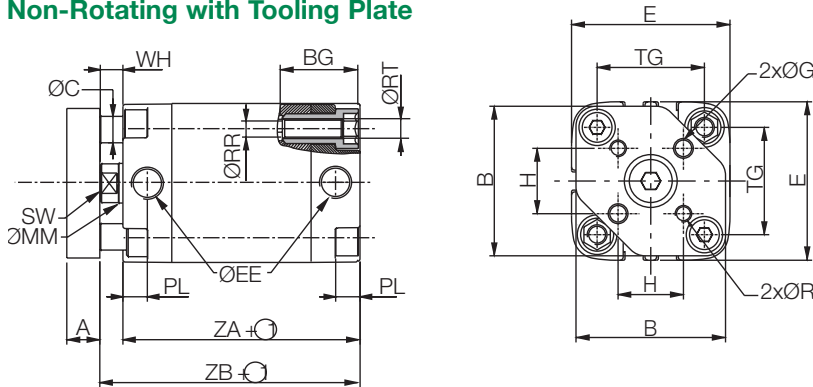


## Guide with Tooling



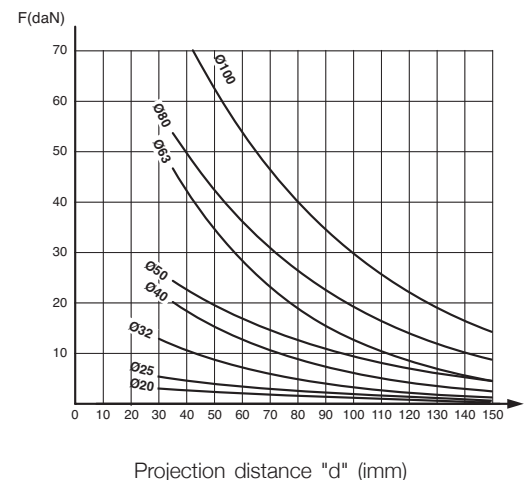
$d$  = the projection distance (mm) corresponds to the dimensions  $WH + A +$  the stroke length + the distance from the center of gravity (G) of the load to the front mating surface of the tool plate.

## Non-Rotating with Tooling Plate



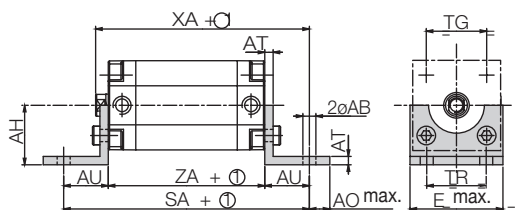
- ① Stroke
- 2 Mounting Holes

Bore Ø (mm)	A	B	BG	ØC	E	EE	ØG	H	ØMM	PL	ØR	ØRT	ØRR	SW	TG	WH	ZA	ZB
20	8	30.5	15	5	36	M5	4	12	10	10	M4	M5	4.5	8	22	6	37	43
25	8	36.5	15	6	40	M5	5	15.6	10	10	M5	M5	4.5	8	26	6	39	45
32	10	45.3	23.5	8	48	G1/8	5	19.8	12	7.5	M5	M6	5.1	10	32.5	7	44	51
40	10	51	23.5	8	54	G1/8	5	23.3	12	7.5	M5	M6	5.1	10	38	7	45	52
50	12	62	27.5	10	66	G1/8	6	29.7	16	7.5	M6	M8	6.7	13	46.5	8	45	53
63	12	73	27.5	10	78	G1/8	6	35.4	16	7.5	M6	M8	6.7	13	56.5	8	49	57
80	14	91	28.5	12	96	G1/8	8	46	20	8.5	M8	M10	8.5	16	72	10	54	64
100	16	111	28.5	12	115	G1/8	10	56.6	25	10	M10	M10	8.5	21	89	10	67	77



**Mounting**

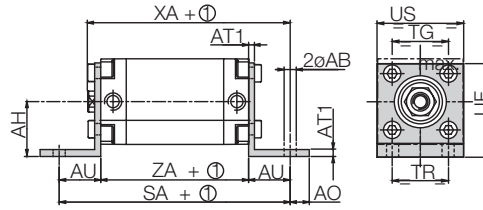
Foot Bracket (Outside) Mount  
**C01**



① Stroke

**Mounting**

High foot  
**MS3**

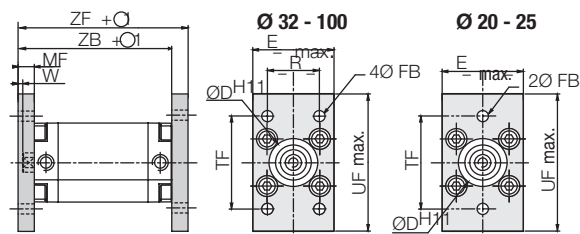


① Stroke

Bore Ø (mm)	ØAB	AO	AH	AT	AT1	AU	E	SA	TR	TG	UF	US	XA	ZA	Weight (kg)	
															2 x C01	1 x MS3
20	7	7	27	4	-	16	38	69	22	22	-	-	59	37	0.064	-
25	7	7	29	4	-	16	41	71	26	26	-	-	61	39	0.076	-
32	7	11	32	4	8	24	50	92	32	32.5	54	50	79	44	0.150	0.180
40	10	15	36	4	8	28	58	101	36	38	62	58	83	45	0.190	0.250
50	10	15	45	5	10	32	70	109	45	46.5	77	70	88	45	0.395	0.470
63	10	15	50	5	10	32	85	113	50	56.5	87	85	91.5	49	0.445	0.595
80	12	20	63	6	12	41	105	146	63	72	110	105	107.5	54	0.790	1.265
100	14.5	25	71	6	12	41	130	149	75	89	130	130	128.5	67	1.400	-

**Mounting**

Front or rear flange  
**CF2, CR2**  
Rectangular



① Stroke

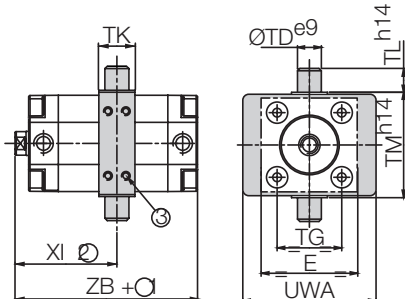
Bore Ø (mm)	ØD	E	ØFB	MF	R	TF	UF	W	ZB	ZJ	ZF	Weight (kg)
20	16	38	6.6	8	-	55	70	2	43	-	51	0.016
25	16	41	6.6	8	-	60	76	2	45	-	53	0.020
32	30	50	7	10	32	64	86	3	55	120	65	0.190
40	35	58	9	10	36	72	96	3	55	135	65	0.245
50	40	70	9	12	45	90	115	4	56	143	67	0.500
63	45	85	9	12	50	100	130	4	59.5	158	71.5	0.580
80	45	105	12	16	63	126	165	6	66.5	174	82.5	1.390
100	55	130	14	16	75	150	187	6	77.5	189	93.5	1.630

## Mounting

Mid trunnion

**MT4, MS4**

XV Dimension must be specified when ordering.

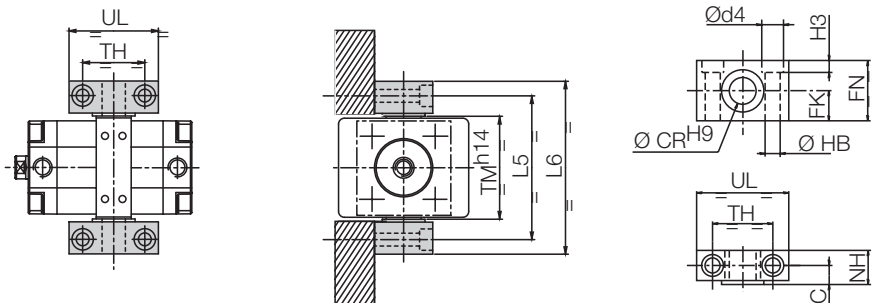


- ① XI
- ② Except when XI dimension is specified when ordering, the position of the trunnion may be adjusted along the unit. Consequently, the mid trunnion is not screwed on and must be adjusted after delivery.
- ③ 8 locking screws

Bore Ø (mm)	E	TD	TG	TK	TK1	TL	TM	UW	UWA	ZB	XV min.	XV max.	min. stroke	Weight (kg)
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	56	12	32.5	18	22	12	53	55	64.5	55	32.3	25.9	6.5	0.185
40	67	16	38	20	28	16	63	58	74.5	55	34	25	9	0.33
50	89	16	46.5	20	28	16	75	68	91	56	37	24	13	0.475
63	89	20	56.6	25	35	20	90	84	94	59.5	40	25	15	0.57
80	112	20	72	25	35	20	110	102	130	66.5	44.5	29.5	15	1.12
100	112	25	89	30	40	25	132	145	145	87.5	52.5	34.8	18	1.52

## Mounting

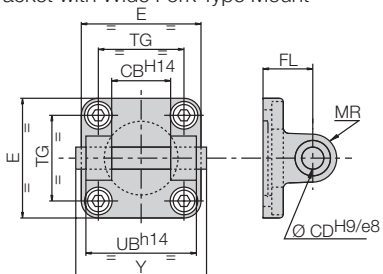
Support for mid trunnion (set of 2 items)



Bore Ø (mm)	C	ØCR	FK	FN	HB	H3	L5	L6	NH	TH	TM	UL	Weight (kg)
20	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-
32	10.5	12	15	30	6.6	6.8	71	86	18	32	50	46	0.12
40	12	16	18	36	9	9	87	105	21	36	63	55	0.23
50	12	16	18	36	9	9	99	117	21	36	75	55	0.23
63	13	20	20	40	11	11	116	136	23	40	90	65	0.33
80	13	20	20	40	11	11	136	156	23	40	110	65	0.33
100	16	25	25	50	13.5	13	164	189	28.5	50	132	75	0.58

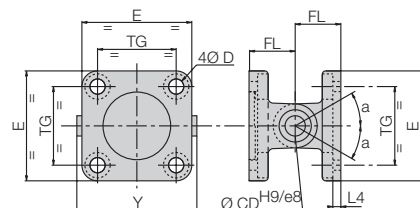
**Rear Mounting**

Oscillating Bracket with Wide Fork Type Mount  
**C08**



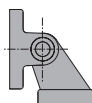
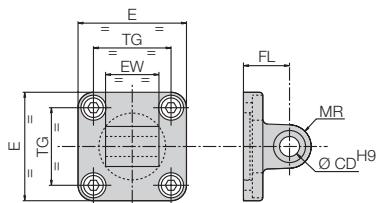
**C08 + C07**

Oscillating Bracket with Wide Fork Type Mount  
+  
Oscillating Bracket with Lugs



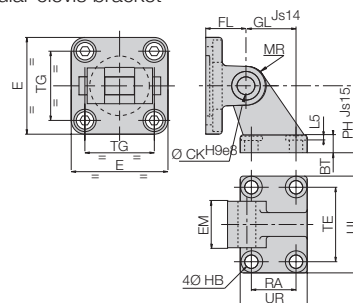
**Rear Mounting**

Oscillating Bracket with Lugs  
**C07**



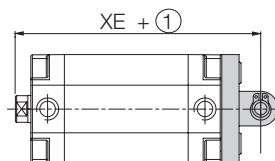
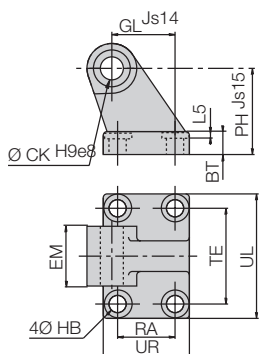
**C08 + AB7**

Oscillating Bracket with Wide Fork Type Mount  
+  
Angular clevis bracket



**Rear Mounting**

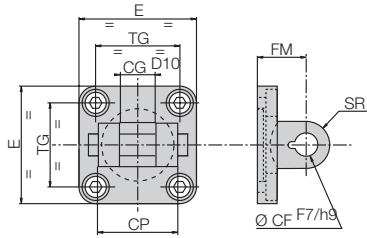
Angular clevis bracket  
**AB7**



Bore $\varnothing$ (mm)	BT	CB EM	CD CK	D	E	EW	FL	GL	HB	L4	L5	MR	PH	RA	TE	TG	UB	UR	UL	XE	Y
20	-	-	8	-	38	16	20	-	-	-	-	9	-	-	-	22	-	-	-	63	-
25	-	-	8	-	41	16	20	-	-	-	-	9	-	-	-	26	-	-	-	65	-
32	8	26	10	6.6	50	26	22	21	6.6	5.5	1.6	11	32	18	38	32.5	45	31	51	73	56
40	10	28	12	6.6	58	28	25	24	6.6	5.5	1.6	13	36	22	41	38	52	35	54	77	63
50	12	32	12	9	70	32	27	33	9	6.5	1.6	13	45	30	50	46.5	60	45	65	80	71
63	12	40	16	9	85	40	32	37	9	6.5	1.6	17	50	35	52	56.5	70	50	67	89	81
80	14	50	16	11	105	50	36	47	11	10	2.5	17	63	40	66	72	90	60	86	100	101
100	15	60	20	11	130	60	41	55	11	10	2.5	21	71	50	76	89	110	70	96	118	128

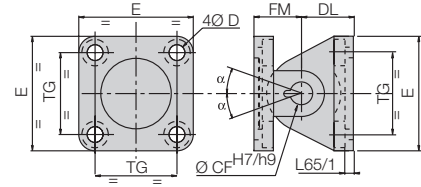
### Rear Mounting

Oscillating Bracket with Narrow Fork Type Mount  
**C14**



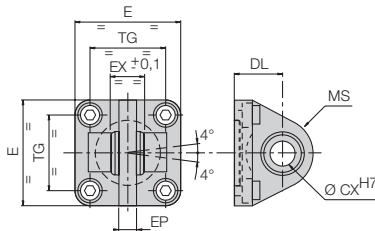
### C14 + C13

Oscillating Bracket with Narrow Fork Type Mount  
+ Spherical Eye Mount (Back Side)



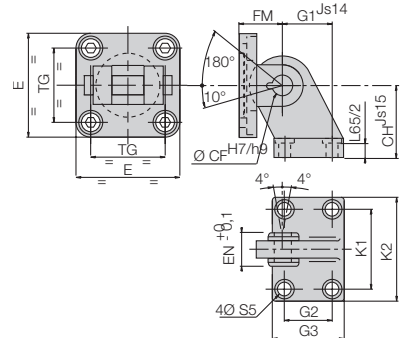
### Rear Mounting

Spherical Eye Mount (Back Side)  
**C13**



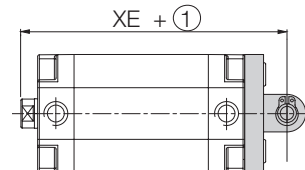
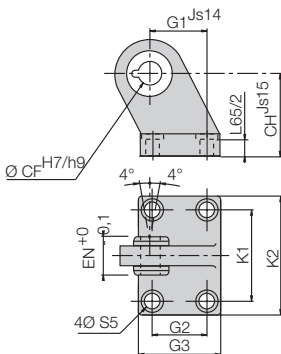
### C14 + AB5

Oscillating Bracket with Narrow Fork Type Mount  
+ Angular clevis bracket spherical bearing



### Rear Mounting

Angular clevis bracket spherical bearing  
**AB5**

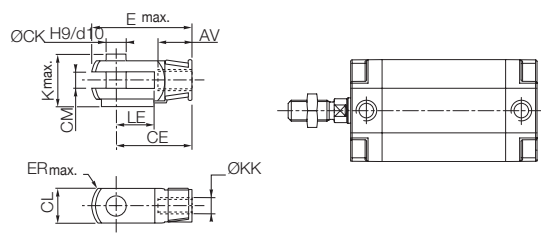


Bore Ø (mm)	BT	CB EM	CD CK	D	CG	CP	DL FM	EP	G1	G2	G3 Max.	K1	K2 Max.	E	EW	FL	GL	HB	L4	L5	MR	PH
20	-	-	8	-	-	-	-	-	-	-	-	-	-	38	16	20	-	-	-	-	9	-
25	-	-	8	-	-	-	-	-	-	-	-	-	-	41	16	20	-	-	-	-	9	-
32	8	26	10	6.6	14	34	22	10.5	21	18	31	38	51	50	26	22	21	6.6	5.5	1.6	11	32
40	10	28	12	6.6	16	40	25	12	24	22	35	41	54	58	28	25	24	6.6	5.5	1.6	13	36
50	12	32	12	9	21	45	27	15	33	30	45	50	65	70	32	27	33	9	6.5	1.6	13	45
63	12	40	16	9	21	51	32	15	37	35	50	52	67	85	40	32	37	9	6.5	1.6	17	50
80	14	50	16	11	25	65	36	18	47	40	60	66	86	105	50	36	47	11	10	2.5	17	63
100	15	60	20	11	25	75	41	18	55	50	70	76	96	130	60	41	55	11	10	2.5	21	71

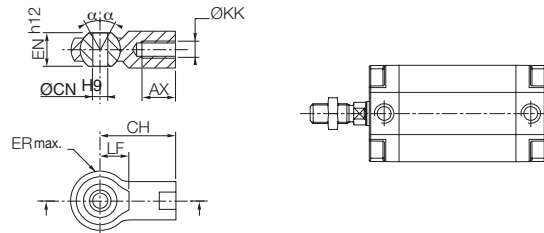
Bore Ø (mm)	RA	TE	TG	UB	UR	UL	XE	Y
20	-	-	22	-	-	-	63	-
25	-	-	26	-	-	-	65	-
32	18	38	32.5	45	31	51	73	56
40	22	41	38	52	35	54	77	63
50	30	50	46.5	60	45	65	80	71
63	35	52	56.5	70	50	67	89	81
80	40	66	72	90	60	86	100	101
100	50	76	89	110	70	96	118	128



**Rod Mounting**  
Rod Clevis Mount  
**CF4**

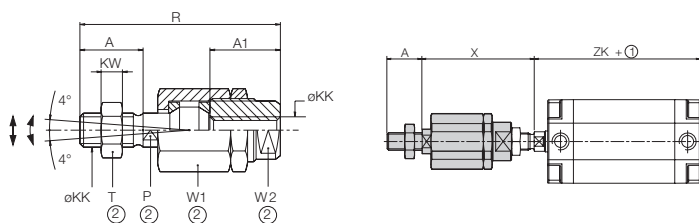


**Rod Mounting**  
Spherical Rod Eye Mount (Front Side)  
**CF5**



Bore Ø (mm)	AV AX	CE	CH	ØCK	CL	CM	ØCN	E max.	EN	ER max.	K	ØKK	LE	LF	α	Weight (kg)			
																Steel	Stainless Steel	Steel	Stainless Steel
20	15	32	36	8	16	8 +0.5/+0.15	8	42	12	12	22	M8x1.25	16	13	4°	0.05	0.05	-	-
25	15	32	36	8	16	8 +0.5/+0.15	8	56	14	14	22	M10x1.25	20	15	4°	0.1	0.07	-	-
32	20	40	43	10	20	10 +0.5/+0.15	10	56	14	14	26	M10x1.25	20	15	4°	0.1	0.07	0.09	0.08
40	20	40	43	10	20	10 +0.5/+0.15	10	56	14	14	26	M10x1.25	20	15	4°	0.1	0.07	-	-
-	22	48	50	12	24	12 +0.5/+0.15	12	67	16	16	32	M12x1.25	24	17	4°	0.15	0.12	0.16	0.12
50	22	48	50	12	24	12 +0.5/+0.15	12	67	16	16	32	M12x1.25	24	17	4°	0.15	0.12	-	-
-	28	64	64	16	32	16 +0.5/+0.15	16	89	21	21	41	M16x1.5	32	22	4°	0.33	0.22	0.31	0.23
63	22	48	50	12	24	12 +0.5/+0.15	12	67	16	16	32	M12x1.25	24	17	4°	0.15	0.12	-	-
-	28	64	64	16	32	16 +0.5/+0.15	16	89	21	21	41	M16x1.5	32	22	4°	0.33	0.22	0.31	0.23
80	28	64	64	16	32	16 +0.5/+0.15	16	89	21	21	41	M16x1.5	32	22	4°	0.33	0.22	-	-
-	33	80	77	20	40	20 +0.5/+0.15	20	112	25	25	48	M20x1.5	40	26	4°	0.67	0.39	0.67	0.42
100	28	64	64	16	32	16 +0.5/+0.15	16	89	21	21	41	M16x1.5	32	22	4°	0.33	0.22	-	-

**Rod Mounting**  
Alignment compensator  
**CF6**



- ① Stroke
- ② Width across flats

Bore Ø (mm)	A	A1	P	ØKK	KW	R	T	W1	W2	X min.	ZJ	ZK	Radial Compensation (mm)	Spherical Compensation (°)	Angular Compensation (°)	Weight (kg)										
20	16	18	7	M8x1.25	-	4	55	13	17	10	-	43	0.5	-	4	0.06										
25	16	18	7	M8x1.25	-	4	55	13	17	10	-	45	0.5	-	4	0.06										
32	22	22	26	23	12	12	M10x1.25	M20x1.25	6	6	73	71	17	17	30	30	19	19	58	56	120	51	0.7	0.7	4	0.22
40	22	24	26	23	12	12	M10x1.25	M12x1.25	6	7	73	75	17	19	30	30	19	19	58	57	135	52	0.7	0.7	4	0.23
50	24	32	26	32	12	20	M12x1.25	M16x1.5	7	8	77	103	19	24	30	41	19	27	59	79	143	53	0.7	1	4	0.66
63	24	32	26	32	12	20	M12x1.25	M16x1.5	7	8	77	103	19	24	30	41	19	27	59	79	158	57	0.7	1	4	0.66
80	32	40	34	39	19	20	M16x1.5	M20x1.5	8	10	106	119	24	30	42	41	30	27	82	89	174	64	1	1	4	0.7
100	32	40	34	39	19	20	M16x1.5	M20x1.5	8	10	106	119	24	30	42	41	30	27	82	89	189	77	1	1	4	0.7

### Mounting Options



	Foot Bracket (Outside) Mount (set of 2 items) C01	High foot MS3	Front and Rear Flange CF2, CR2
<b>Construction</b>	stamped sheet steel	light alloy	steel
<b>Bore Ø (mm)</b>			
<b>20</b>	P493AL124000A00	-	P493AL126000A00
<b>25</b>	P493AM124000A00	-	P493AM126000A00
<b>32</b>	P493A3124000A00	P493A3125100A00	P493A3126000A00
<b>40</b>	P493A4124000A00	P493A4125100A00	P493A4126000A00
<b>50</b>	P493A5124000A00	P493A5125100A00	P493A5126000A00
<b>63</b>	P493A6124000A00	P493A6125100A00	P493A6126000A00
<b>80</b>	P493A8124000A00	P493A8125100A00	P493A8126000A00
<b>100</b>	P493A1124000A00	-	P493A1126000A00



	Mid Trunnion MT4, MS4
<b>Construction</b>	cast iron
<b>Bore Ø (mm)</b>	
<b>20</b>	-
<b>25</b>	-
<b>32</b>	P493B3111000A00
<b>40</b>	P493A4111000A00
<b>50</b>	P493A5111000A00
<b>63</b>	P493A6111000A00
<b>80</b>	P493A8111000A00
<b>100</b>	P493A1111000A00

Rear Mountings



**Oscillating Bracket with Wide Fork Type Mount**  
**C08**

Construction	light alloy
Bore Ø (mm)	
20	-
25	-
32	P493A3121110A00
40	P493A4121110A00
50	P493A5121110A00
63	P493A6121110A00
80	P493A8121110A00
100	P493A1121110A00



**Oscillating Bracket with Lugs**  
**C07**

Construction	light alloy
Bore Ø (mm)	
20	P493AL122110A00
25	P493AM122110A00
32	P493A3122100A00
40	P493A4122100A00
50	P493A5122100A00
63	P493A6122100A00
80	P493A8122100A00
100	P493A1122100A00



**Angular Clevis Bracket**  
**AB7**



**Oscillating Bracket with Narrow Fork Type Mount**  
**C14**



**Spherical Eye Mount (Back Side)**  
**C13**



**Angular Clevis Bracket Spherical Bearing**  
**AB5**

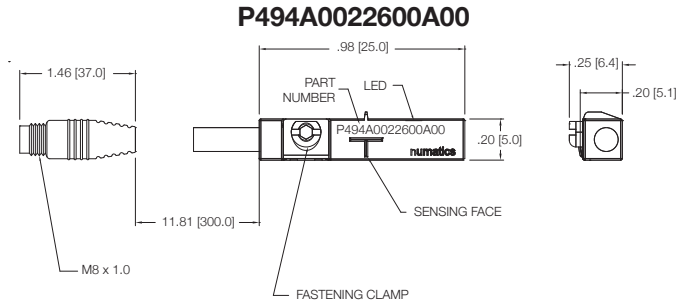
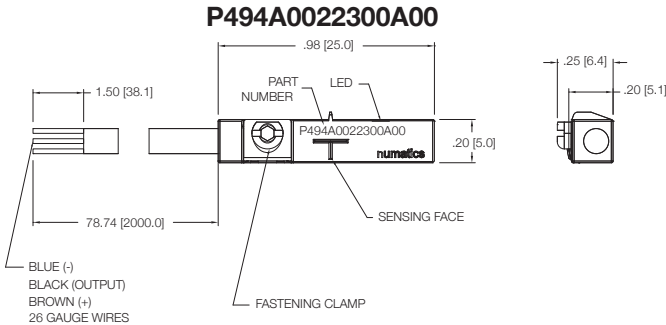
Construction	light alloy	steel	steel	steel
Bore Ø (mm)				
20	-	-	-	-
25	-	-	-	-
32	P493A3123110A00	P493A3129000A00	P493A3128000A00	P493A3127000A00
40	P493A4123110A00	P493A4129000A00	P493A4128000A00	P493A4127000A00
50	P493A5123110A00	P493A5129000A00	P493A5128000A00	P493A5127000A00
63	P493A6123110A00	P493A6129000A00	P493A6128000A00	P493A6127000A00
80	P493A8123110A00	P493A8129000A00	P493A8128000A00	P493A8127000A00
100	P493A1123110A00	P493A1129000A00	P493A1128000A00	P493A1127000A00

### Rod Mountings



	Rod Clevis Mount CF4	Spherical Rod Eye Mount (Front Side) CF5	Alignment Compensator CF6
<b>Construction</b>	steel	steel	steel
<b>Bore Ø (mm)</b>			
<b>20-25</b>	P493AL431000A00	P493AL432000A00	-
<b>32-40</b>	P493A3131000A00	P493A3132000A00	P493A3134000A00
<b>50-63</b>	P493A4131000A00	P493A4132000A00	P493A4134000A00
<b>80-100</b>	P493A5131000A00	P493A5132000A00	P493A5134000A00

## Sensing Part Numbers



ELECTRICAL DESIGN	DC PNP
OUTPUT	Normally Open
OPERATING VOLTAGE	10-30 VDC
CURRENT RATING	100 mA
SHORT-CIRCUIT PROTECTION	Yes
OVERLOAD PROTECTION	Yes
REVERSE POLARITY PROTECTION	Yes
VOLTAGE DROP	< 2.5 V
CURRENT CONSUMPTION	< 12 mA
REPEATABILITY	< .2mm
POWER-ON DELAY TIME	< 30 ms
SWITCH FREQUENCY	> 3000 Hz
AMBIENT TEMPERATURE	-13°F to 185°F (-25°C to 85°C)
PROTECTION	IP 67, III
HYSTERESIS	1.0mm
MAGNETIC SENSITIVITY	2.0 mT
TRAVEL SPEED	> 10 m/s

HOUSING MATERIAL PA (Polyamide) Black; Fastening Clamp: Stainless Steel

FUNCTION DISPLAY SWITCHING STATUS Yellow LED

CONNECTION Flying Leads, Pur Cable (2m Long, 3 x 26 Gauge Wire)

REMARKS Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5  
cULus - Class 2 Source Required

ACCESSORIES Rubber Placeholder, Cable Clip, and Cut Sheet to be provided with every switch

AGENCY APPROVALS

ELECTRICAL DESIGN	DC PNP
OUTPUT	Normally Open
OPERATING VOLTAGE	10-30 VDC
CURRENT RATING	100 mA
SHORT-CIRCUIT PROTECTION	Yes
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PROTECTION	IP 67, III
HYSTERESIS	1.0mm
MAGNETIC SENSITIVITY	2.0 mT
TRAVEL SPEED	> 10 m/s

HOUSING MATERIAL PA (Polyamide) Black; Fastening Clamp: Stainless Steel

FUNCTION DISPLAY SWITCHING STATUS Yellow LED

CONNECTION M8 Connector (Snap Fit) , Pur Cable (.3 m)

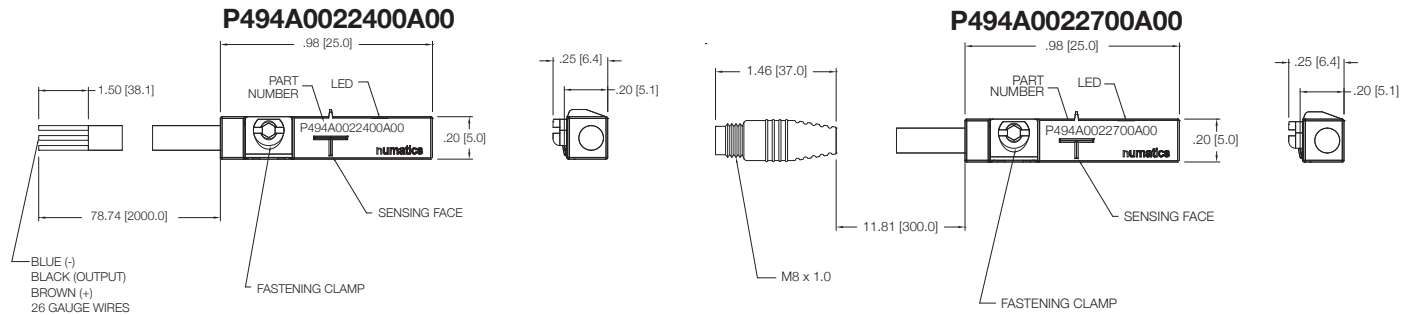
REMARKS Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5  
cULus - Class 2 Source Required

ACCESSORIES Rubber Placeholder, Cable Clip, and Cut Sheet to be provided with every switch

AGENCY APPROVALS



## Sensing Part Numbers



ELECTRICAL DESIGN	DC NPN
OUTPUT	Normally Open
OPERATING VOLTAGE	10-30 VDC
CURRENT RATING	100 mA
SHORT-CIRCUIT PROTECTION	Yes
OVERLOAD PROTECTION	Yes
REVERSE POLARITY PROTECTION	Yes
VOLTAGE DROP	< 2.5 V
CURRENT CONSUMPTION	< 12 mA
REPEATABILITY	< .2mm
POWER-ON DELAY TIME	< 30 ms
SWITCH FREQUENCY	> 3000 Hz
AMBIENT TEMPERATURE	-13°F to 185°F (-25°C to 85°C)
PROTECTION	IP 67, III
HYSTERESIS	1.0mm
MAGNETIC SENSITIVITY	2.0 mT
TRAVEL SPEED	> 10 m/s
HOUSING MATERIAL	PA (Polyamide) Black; Fastening Clamp: Stainless Steel
FUNCTION DISPLAY SWITCHING STATUS	Yellow LED
CONNECTION	Flying Leads, Pur Cable (2m Long, 3 x26 Gauge Wire)
REMARKS	Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5 cULus - Class 2 Source Required

ACCESSORIES Rubber Placeholder, Cable Clip, and Cut Sheet to be provided with every switch

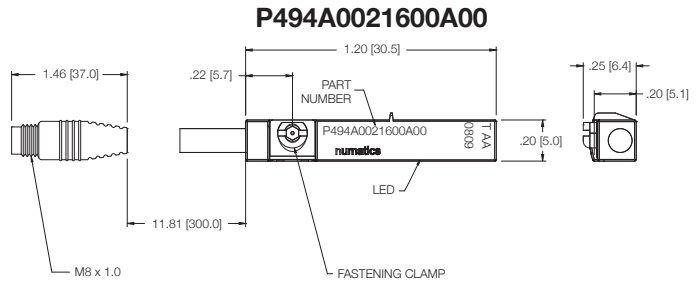
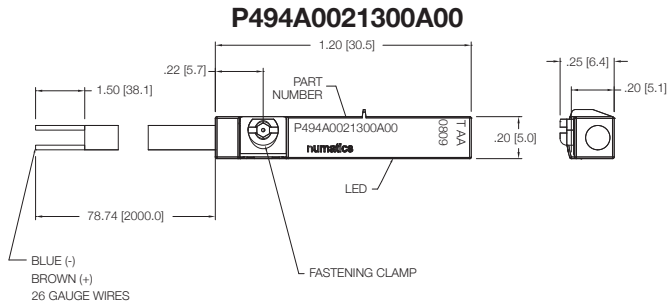
AGENCY APPROVALS   **RoHS**

ELECTRICAL DESIGN	DC NPN
OUTPUT	Normally Open
OPERATING VOLTAGE	10-30 VDC
CURRENT RATING	100 mA
SHORT-CIRCUIT PROTECTION	Yes
OVERLOAD PROTECTION	Yes
REVERSE POLARITY PROTECTION	Yes
VOLTAGE DROP	< 2.5 V
CURRENT CONSUMPTION	< 12 mA
REPEATABILITY	< .2mm
POWER-ON DELAY TIME	< 30 ms
SWITCH FREQUENCY	> 3000 Hz
AMBIENT TEMPERATURE	-13°F to 185°F (-25°C to 85°C)
PROTECTION	IP 67, III
HYSTERESIS	1.0mm
MAGNETIC SENSITIVITY	2.0 mT
TRAVEL SPEED	> 10 m/s
HOUSING MATERIAL	PA (Polyamide) Black; Fastening Clamp: Stainless Steel
FUNCTION DISPLAY SWITCHING STATUS	Yellow LED
CONNECTION	M8 Connector (Snap Fit) , Pur Cable (.3 m)
REMARKS	Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5 cULus - Class 2 Source Required

ACCESSORIES Rubber Placeholder, Cable Clip, and Cut Sheet to be provided with every switch

AGENCY APPROVALS   **RoHS**

## Sensing Part Numbers



ELECTRICAL DESIGN	AC/DC REED
OUTPUT	Normally Open
OPERATING VOLTAGE	5-120 VAC/DC
CURRENT RATING	100 mA*
SHORT-CIRCUIT PROTECTION	No
OVERLOAD PROTECTION	No
REVERSE POLARITY PROTECTION	Yes
VOLTAGE DROP	< 5 V
REPEATABILITY	± .2mm
MAKETIME INCLUDING BOUNCE	< .6 ms
BREAKTIME	< .1 ms
SWITCHING POWER (MAX)	5 W
SWITCH FREQUENCY	1000 Hz
AMBIENT TEMPERATURE	-13°F to 158°F (-25°C to 70°C)
PROTECTION	IP 67, II
HYSTERESIS	.9mm
HOUSING MATERIAL	PA (Polyamide) Black; Fastening Clamp: Stainless Steel
FUNCTION DISPLAY SWITCHING STATUS	Yellow LED
CONNECTION	Flying Leads, Pur Cable (2m Long, 2 x26 Gauge Wire)

REMARKS

\*External Protective Circuit for Inductive Load (Valve, Contactor, Etc..) Necessary. Conforms to 2008 NEC Section 725 III, Class 2 Circuits

Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5.

No LED Function in case of Polarity in DC Operation

ACCESSORIES Rubber Placeholder, Cable Clip, and Cut Sheet to be provided with every switch

AGENCY APPROVALS



ELECTRICAL DESIGN	AC/DC REED
OUTPUT	Normally Open
OPERATING VOLTAGE	*5-60 VDC / 5-50 VAC
CURRENT RATING	100 mA
SHORT-CIRCUIT PROTECTION	No
OVERLOAD PROTECTION	No
REVERSE POLARITY PROTECTION	Yes
VOLTAGE DROP	< 5 V
REPEATABILITY	± .2mm
MAKETIME INCLUDING BOUNCE	< .6 ms
BREAKTIME	< .1 ms
SWITCHING POWER (MAX)	5 W
SWITCH FREQUENCY	1000 Hz
AMBIENT TEMPERATURE	-13°F to 158°F (-25°C to 70°C)
PROTECTION	IP 67, II
HYSTERESIS	.9mm
HOUSING MATERIAL	PA (Polyamide) Black; Fastening Clamp: Stainless Steel
FUNCTION DISPLAY SWITCHING STATUS	Yellow LED
CONNECTION	M8 Connector (Snap Fit), Pur Cable (.3m)

REMARKS

\*External Protective Circuit for Inductive Load (Valve, Contactor, Etc..) Necessary. Conforms to 2008 NEC Section 725 III, Class 2 Circuits

M8 Connector voltage limited to 5-60 vdc / 5-50 vac to conform with 2008 IEC 61076-2-104

Clamping Screw with Combined Slot/Hexagon Socket Head AF 1.5.

No LED Function in case of Polarity in DC Operation

ACCESSORIES Rubber Placeholder, Cable Clip, and Cut Sheet to be provided with every switch

AGENCY APPROVALS









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