

ISO 15552 Standard Cylinders



Features & Benefits

- Flexible Options
 - High temperature version up to +302°F
 - Ø32 ...125mm
- Auto-Cushioning
 - No cushioning setting required, cylinder auto-adapts to application
 - High performance
- Improved Performance
 - Operates at low pressures with very low leakage
 - Protection against ingress
- Wide Range Of Applications
 - Heavy industrial to clean food& beverage to rail and truck
- Modern Appearance
 - Clean great look
 - Smooth end covers contoured to barrel for easy cleaning
- Reduced Weight
 - Lower overall weight of machine
 - Reduced transport costs
- Additional Switch Mounting
 - Great flexibility for machine designers
 - Flush mounted reed and solid state switches available for position sensing

Performance Characteristics

- Medium
 - Compressed air, filtered, non-lubricated
- Standard
 - ISO 15552
- Operation
 - Double acting
- Operating Pressure
 - 14 ... 174 psi (1 ... 12 bar)
- Ports
 - G1/8 ... G1/2
- Cylinder Diameters
 - 32, 40, 50, 63, 80, 100, 125 mm
- Standard Strokes
 - Available (5 ... 2800 mm)
- Operating Temperature
 - Ø 32 ... 125 mm "Standard version"
 - -4 ... +176°F max. (-20 ... +80°C)
 - Ø 32 ... 125 mm "High temperature version" (HR)
 - -17,7 ... +302°F max. (0 ... +150°C)
- Standard Materials
 - Body: Anodized aluminium
 - End covers: Pressure die cast aluminium
 - Piston rod: Stainless steel

Advantages

- Reliability
 - To demonstrate our confidence in our products, they are backed by IMI Bimba's standard warranty.
- Choice
 - Our range comes in bore sizes of Ø32 to 125mm and in strokes of up to 3 meters. This gives more scope for using the products in the widest range of applications.
- Options
 - Various options for alternative positions, seals, and other elements allow you to solve even the most challenging applications.
- Accessories
 - Optional accessories, including reed switches, solid state switches, fittings, mounts, and much more, provide configurability and add functionality.

Standards Conformance

Our ISO standard cylinder ranges conform to the following international standards:

- ISO 15552
- ISO 6431



ISO 15552 ABN Series Extruded Cylinder

This cylinder's extruded body provides a clean appearance and enables direct assembly for flush-mounted switches.



Auto-Cushioning

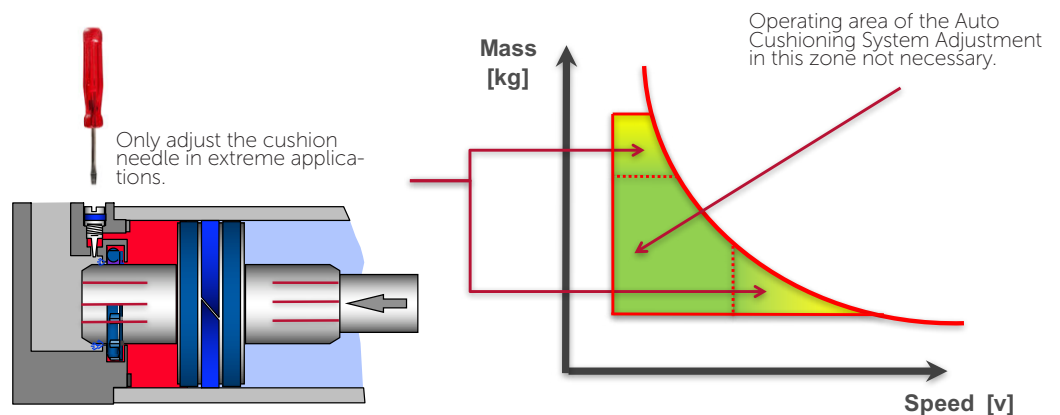
- Comprehensive range for the utmost versatility
- Cylinders and mountings that conform to ISO 15552
- All sizes supplied magnetic as standard
- Polyurethane seals ensure efficient low friction operation and long life

Our cushioning system will automatically adapt to an application without the need for any adjustment of the cushion screw. This removes the need for specialist knowledge for set-up and simplifies installation. Also, auto-cushioning will adjust to any changes in the application, such as varying loads, which may occur over a cylinder cycle, a working shift or the life of the machine. This will help to ensure the application always runs efficiently and potentially extend the servicing period of the machine.

For extreme applications involving high speeds or heavy loads, a cushion screw is included for manual adjustment if required.

The Function

The new Auto-Cushioning System provides a high performance pneumatic damping function. The system will automatically cushion for a wide range of general applications as delivered. Manual adjustment is still possible for extreme applications.



Technical Data

Cylinder ø (mm)	32	40	50	63	80	100	125
Port Size	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Piston Rod ø (mm)	12	16	20	20	25	25	32
Piston Rod Thread	M10 x 1.25	M12 x 1.25	M16 x 1.5	M16 x 1.5	M20 x 1.5	M20 x 1.5	M27 x 2
Cushion Length (mm)	20	22	24	24	26	33	39
Auto Cushioning Systems	•	•	•	•	•	•	•
Initial Cushion Volume (cm ³)	12.8	20.2	36	64	111	235	427
Theoretical thrusts at 6 bar outstroke (N)	482	754	1178	1870	3016	4710	7363
Theoretical thrusts at 6 bar instroke (N)	414	633	990	1680	2722	4416	6882
Air consumption at 6 bar outstroke (l/cm)	0.056	0.088	0.137	0.218	0.35	0.55	0.86
Air consumption at 6 bar instroke (l/cm)	0.048	0.074	0.114	0.195	0.32	0.51	0.79

ISO Standard and Rod Lock Cylinder Models

ISO standard cylinders offer complete flexibility for many industrial applications.

Options

Standard magnetic	*
High temperature 150°C Max.	*
Extended piston rod	*
Without cushioning	*
Double ended piston rod	*
Rod lock	*

Specifications

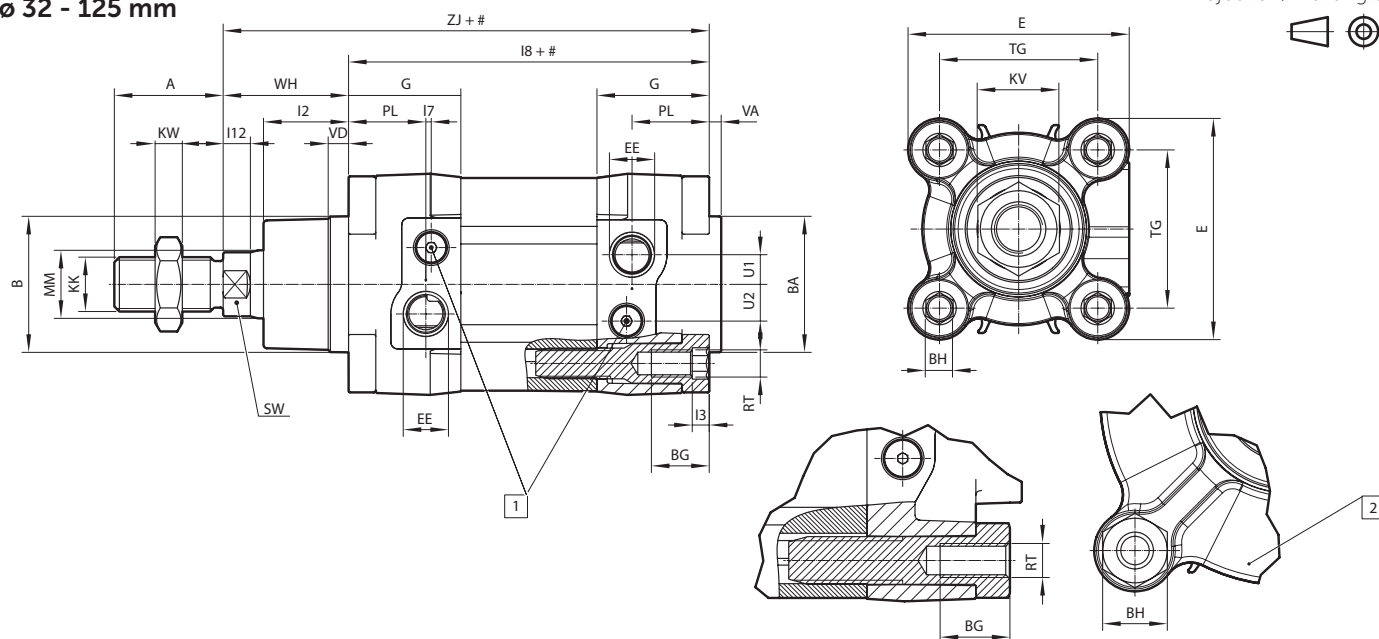
Technical Feature	ISO 15552 ABN Series
Cylinder diameter	32 ... 125mm
Standard strokes	1 ... 2800mm
Operating pressure	1 - 12bar
Operating temperature	-20 ... +80°C

Material		
Body	Anodized aluminium	*
End caps	Aluminium	*
	Anodized aluminium	
Piston rod	Stainless steel	
Piston seals	Ø32 ... 125mm	PUR
Piston rod seal	All cylinder diameters	PUR

Basic Dimensions

ABN Series Standard Cylinder ø 32 - 125 mm

Dimensions in mm
 Projection/First angle

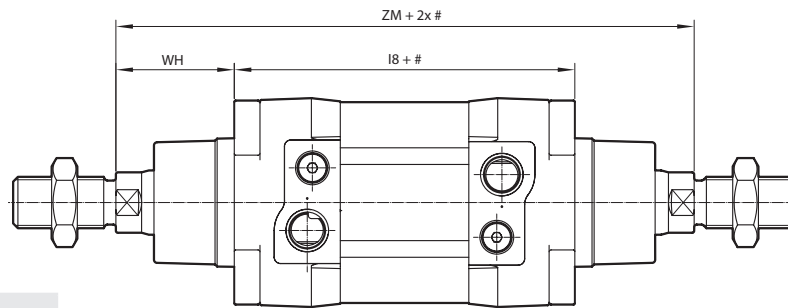


ø	A -0.5	ø B d11	ø BA d11	BG min	BH	E	EE	G	KK	KV	KW	L2	L3	L7	L8	L12
32	22	30	30	16	6	47	G1/8	29	M10 x 1.25	17	5	19.5	4	6.6	94	5.5
40	24	35	35	16	6	53	G1/4	34.5	M12 x 1.25	19	6	22	4	5.6	105	6.5
50	32	40	40	16	8	65	G1/4	33	M16 x 1.5	24	8	25	5	1.6	106	8
63	32	45	45	16	8	75	G3/8	36.5	M16 x 1.5	24	8	25	5	3.6	121	8
80	40	45	45	17	19	95	G3/8	42	M20 x 1.5	30	10	33	-	1.8	128	10
100	40	55	55	17	19	113	G1/2	42	M20 x 1.5	30	10	35	-	3.8	138	10
125	54	60	60	20	24	140	G1/2	54	M27 x 2	41	13.5	44	-	1.8	160	13

ø	ø MM h9	PL	TG	RT	SW	U1	U2	VA	VD	WH	ZJ	weight at 0 mm	weight per 25 mm
32	12	15	32.5	M 6	10	4.6	6.3	3.5	6	26	120	0.49 (kg)	0.06 (kg)
40	16	21.5	38	M 6	13	5.8	9.2	3.5	6	30	135	0.69 (kg)	0.08 (kg)
50	20	22.7	46.5	M 8	17	8.7	10.8	3.5	6	37	143	1.09 (kg)	0.12 (kg)
63	20	24.2	56.5	M 8	17	10	12.8	3.5	6	37	158	1.54 (kg)	0.13 (kg)
80	25	29.7	72	M 10	22	12	14.5	3.5	6	46	174	2.64 (kg)	0.20 (kg)
100	25	27.7	89	M 10	22	9	14.5	3.5	6	51	189	3.66 (kg)	0.23 (kg)
125	32	39.7	110	M 12	27	12	17	5.5	8	65	225	6.16 (kg)	0.45 (kg)

* Please insert stroke length.

Double Ended Piston Rod



Dimensions in mm
Projection/First angle

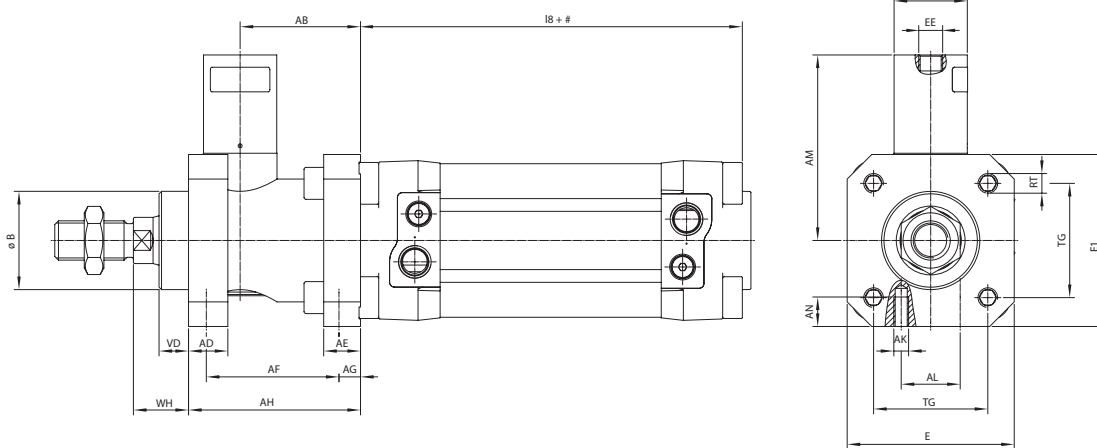


Stroke

ø	L8	WH	ZM
32	94	26	146
40	105	30	165
50	106	37	180
63	121	37	195
80	128	46	220
100	138	51	240
125	160	65	290
160	180	80	340
200	180	95	370
250	200	105	410
320	220	120	460

* Please insert stroke length; For missing dimensions please see page 8, 9 and 10

Rod Lock Model



ø	AB	AD	AE	AF	AG	AH	ø AJ	AK	AL	AM	AN	ø Be11	E	E1	EE	L8	RT	TG	VD	WH	Locking Force
32	32	12	8	40	4,2	48	25	M 5	16	59	8	30	48	50	G1/8	94	M6	32.5	10	16	600
40	35,5	12	10	46	4,5	55	24	M 5	21	61,5	10	35	56	58	G1/8	105	M6	38	10	18	1000
50	49	16	15	54	11,5	70	30	M 6	24	75,5	12	40	68	70	G1/8	106	M8	46.5	12	22	1500
63	49	15	15	55	7,5	70	38	M 8	32	86	12	45	82	85	G1/8	121	M8	56.5	12	20	2200
80	62	16	16	70	10	90	53	M 8	44	118	16	45	100	105	G1/8	128	M10	72	20	33	5000
100	65	18	16	70	10	92	53	M 8	60	118	16	55	120	130	G1/8	138	M10	89	23	38	5000
125	85	27	25	95	11	122	65	M 10	75	140	20	60	140	150	G1/8	160	M12	110	32	65	7000

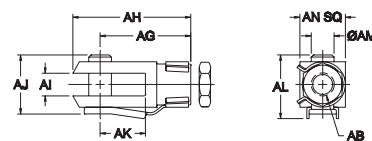
* Please insert stroke length
Maximum stroke: 2600 mm
For missing dimensions please see page 8

Cylinder Mounting and Accessories

- Mountings
 - A comprehensive range of mountings for each cylinder range conforming to ISO15552 for front end cover, rear end cover and piston rod mounting.
- Switches
 - Reed and solid state switches are available which are suitable for all cylinder ranges with magnetic pistons.
 - Switches can be mounted flush on cylinder body.

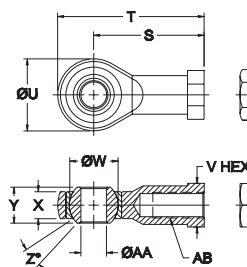
Rod Clevis

Bore	Model	AB	AG	AH	AI	AJ	AK	AL	AM	AN	Weight (Kg)
32	RC-M10x1.25	M10x1.25	40	52	10	26	20	28	10	20	.097
40	RC-M12x1.25	M12x1.25	48	62	12	32	24	34	12	24	.157
50, 63	RC-M16x1.5	M16x1.5	64	83	16	40	32	42	16	32	.356
80, 100	RC-M20x1.5	M20x1.5	80	105	20	48	40	50	20	40	.714



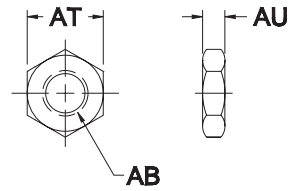
Spherical Rod Eye

Bore	Model	S	T	U	V	W	X	Y	Z	AA	AB	Weight (Kg)
32	SRE-M10x1.25	43	57	Ø28	17	Ø19	10.5	14	13°	Ø10	M10x1.25	.080
40	SRE-M12x1.25	50	66	Ø32	19	Ø22	12	16	13°	Ø12	M12x1.25	.124
50, 63	SRE-M16x1.5	64	85	Ø42	23	Ø28.5	15	21	15°	Ø16	M16x1.5	.248
80, 100	SRE-M20x1.5	77	102	Ø50	30	Ø35	18	25	14°	Ø20	M20x1.5	.438



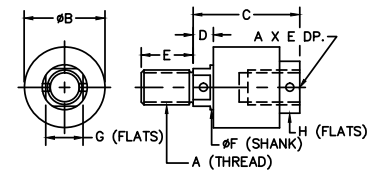
Rod Nut

Bore	Model	AB	AT	AU	Weight (Kg)
32	RN-4	M10x1.25	17	5	.006
40	MN-1	M12x1.25	19	7	.010
50, 63	MN-2	M16x1.5	24	8	.017
80, 100	MN-5	M20x1.5	30	9	.030



Rod Coupler

Bore	Model	A	B	C	D	E	F	G	H
8, 10	MAC250-M4x0.7	M4x0.7	28.5	44.4	9.5	12.7	12.7	9.5	17.4
12, 16	MAC250-M6x1.0	M6x1.0	28.5	44.4	9.5	12.7	12.7	9.5	17.4
20	MAC312-M8x1.25	M8x1.25	28.5	44.4	9.5	12.7	12.7	9.5	17.4
25, 32	MAC437-M10x1.25	M10x1.25	31.7	50.8	11	19	15.8	12.7	20.6
40	MAC500-M12x1.25	M12x1.25	31.7	50.8	11	19	15.8	12.7	20.6
50, 63	MAC625-M16x1.50	M16x1.5	31.7	50.8	11	19	15.8	12.7	20.6
80, 100	MAC750-M20x1.50	M20x1.5	44.4	58.7	11	28.5	24.5	20.6	28.5



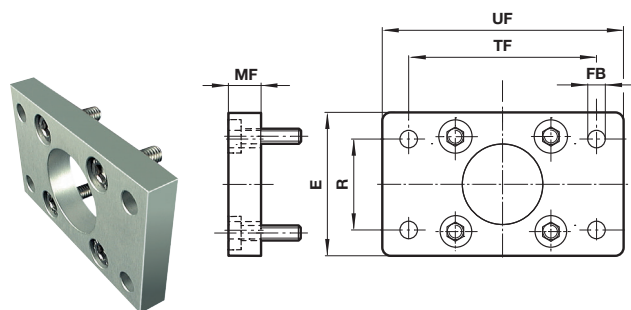
Repair Kits

Part Number	Description
K-B-ABN-Bore	Standard Repair Kit
K-B-ABN-Bore-HR	High Temp Repair Kit
K-B-ABN-Bore-D	Double Rod End Repair Kit

Dimensions in mm
Projection/First angle

Front and Rear Flange

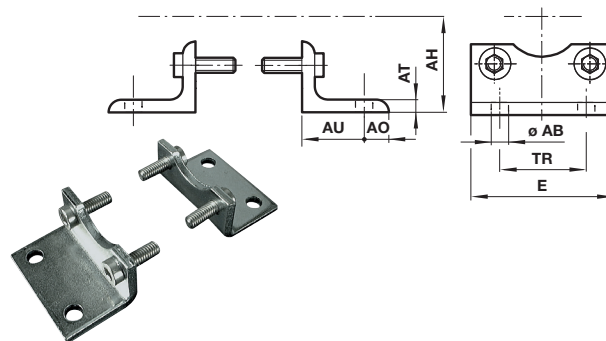
Conforms to ISO 15552, Type MF1 and MF2



ø	E	ø FB	MF	R	TF	UF	(kg)	Model
32	50	7	10	32	64	80	0,10	MF-ABN-32
40	55	9	10	36	72	90	0,12	MF-ABN-40
50	65	9	12	45	90	110	0,21	MF-ABN-50
63	75	9	12	50	100	125	0,27	MF-ABN-63
80	100	12	16	63	126	154	0,63	MF-ABN-80
100	120	14	16	75	150	186	0,89	MF-ABN-100
125	140	16	20	90	180	224	1,59	MF-ABN-125

Foot Bracket

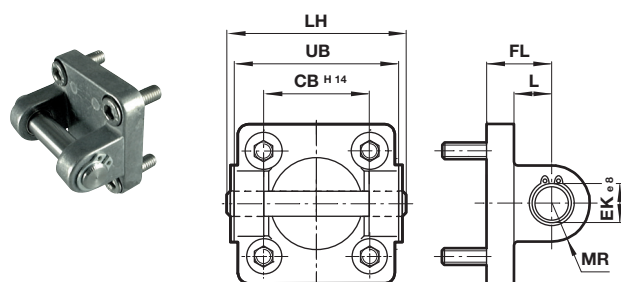
Conforms to ISO 15552, Type MS1



ø	ø AB	AH	AO	AT	AU	E	TR	(kg)	Model
32	7	32	8	4	24	48	32	0,15	MS1-ABN-32
40	10	36	9	4	28	53	36	0,18	MS1-ABN-40
50	10	45	10	5	32	64	45	0,30	MS1-ABN-50
63	10	50	12	5	32	74	50	0,39	MS1-ABN-63
80	12	63	19	6	41	98	63	0,80	MS1-ABN-80
100	14,5	71	19	6	41	115	75	0,95	MS1-ABN-100
125	16	90	20	9	45	140	90	2,40	MS1-ABN-125

Rear Clevis

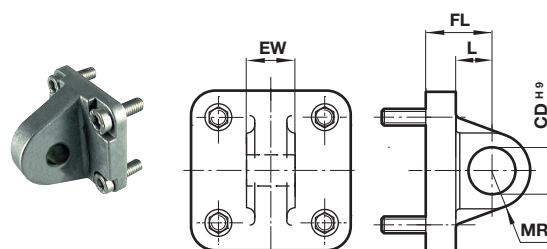
Conforms to ISO 15552, Type MP2



ø	CB H14	ø EK e8	FL	L	LH	MR	UB	(kg)	Model
32	26	10	22	13	52	9	45	0,11	MP2-ABN-32
40	28	12	25	16	60	12	52	0,16	MP2-ABN-40
50	32	12	27	17	68	12	60	0,22	MP2-ABN-50
63	40	16	32	22	79	15	70	0,34	MP2-ABN-63
80	50	16	36	22	99	15	90	0,54	MP2-ABN-80
100	60	20	41	27	119	20	110	0,90	MP2-ABN-100
125	70	25	50	29	140	25	130	2,70	MP2-ABN-125

Rear Pivot

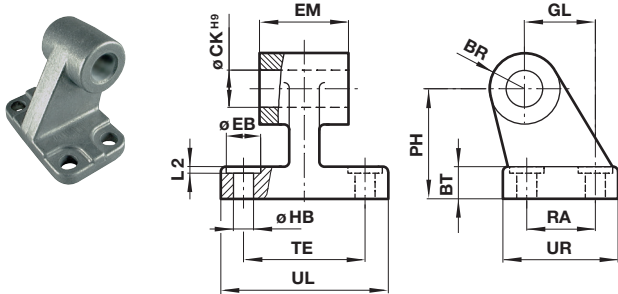
Conforms to ISO 15552, Type MP4



ø	ø CD H9	EW	FL	L	MR	(kg)	Model
32	10	25,6	22	13	9	0,09	MP4-ABN-32
40	12	27,6	25	16	12	0,11	MP4-ABN-40
50	12	31,6	27	17	12	0,17	MP4-ABN-50
63	16	39,6	32	22	15	0,24	MP4-ABN-63
80	16	49,6	36	22	15	0,37	MP4-ABN-80
100	20	59,6	41	27	20	0,59	MP4-ABN-100
125	25	69,6	50	33	25	3,20	MP4-ABN-125

Pivot

Conforms to ISO 15552, Type AB7

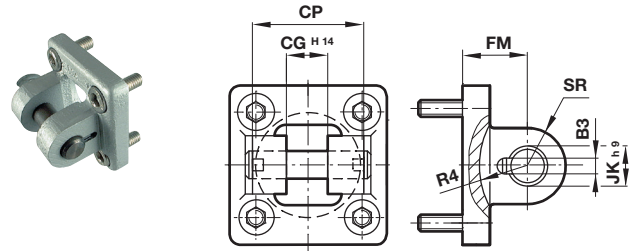


ø	BR	BT	PH	ø CK H9	ø EB	EM	GL
32	10	7	32	10	12	25,6	21
40	11	9	36	12	12	27,6	24
50	13	11	45	12	15	31,6	33
63	15	11	50	16	15	39,6	37
80	15	14	63	16	18	49,6	47
100	18	15	71	20	18	59,6	55
125	22	20	90	25	20	69	70

ø	ø HB	L2	RA	TE	UL	UR	(kg)	Model
32	6,6	1,6	18	38	50	31	0,05	PB1-ABN-32
40	6,6	1,6	22	41	53	35	0,07	PB1-ABN-40
50	9	1,6	30	50	65	45	0,14	PB1-ABN-50
63	9	1,6	35	52	67	50	0,18	PB1-ABN-63
80	11	2,5	40	66	84	60	0,28	PB1-ABN-80
100	11	2,5	50	76	94	70	0,42	PB1-ABN-100
125	14	3,2	60	94	124	90	2,70	PB1-ABN-125

Clevis Bracket

Conforms to ISO 15552, Type AB6



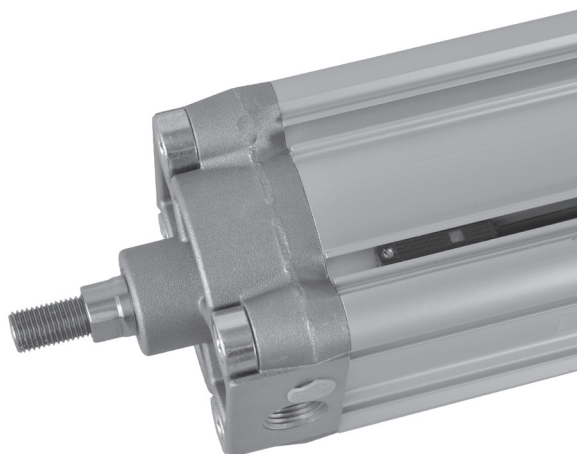
ø	CG H14	CP	B3	ø JK h9	FM	SR	R4	(kg)	Model
32	14	34	3,3	10	22	11	17	0,20	CB-ABN-32
40	16	40	4,3	12	25	12	20	0,23	CB-ABN-40
50	21	45	4,3	16	27	14,5	22	0,36	CB-ABN-50
63	21	51	4,3	16	32	18	25	0,55	CB-ABN-63
80	25	65	4,3	20	36	22	30	0,90	CB-ABN-80
100	25	75	4,3	20	41	22	32	1,45	CB-ABN-100
125	37	97	6,3	30	50	30	42	2,7	CB-ABN-125

Reed and Solid State Switches

- Reed and Solid State functionality
- LED indicator
- Flush with tube profile
- Flying lead or quick disconnect
- Auto select versions
- Acrylonitrile butadiene styrene (ABS) housing

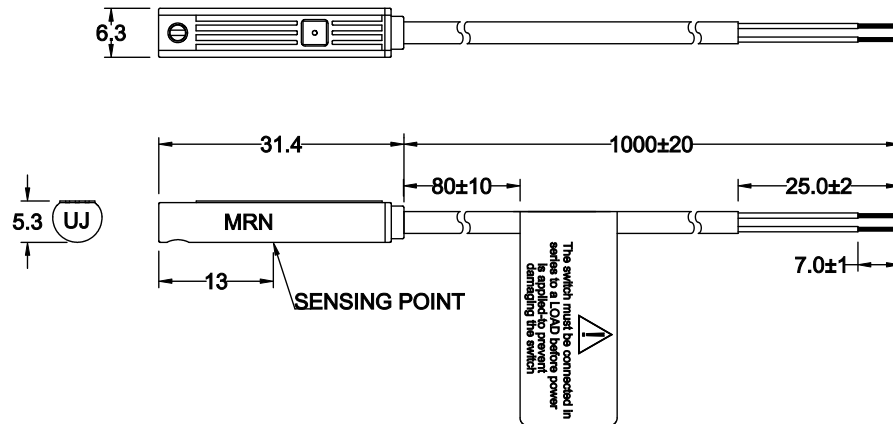


Switch P/N	Type	Voltage	Current Maximum (mA)	Function	Operating Temperature (°F)	LED	Protection Class	Plug	Cable Length
MRN	Reed, 2-Wire Flying Lead	240V AC/DC	100	Normally Open	25 to 158°F	RED	IP69K		1000 mm
MRNQS	Reed, 2-Wire M8	240V AC/DC	100	Normally Open	25 to 158°F	RED	IP69K	M8, 3 pin	300 mm
MDN	Solid State, 2-Wire Flying Lead	10 - 28V DC	50	Normally Open	25 to 158°F	RED	IP69K		1000 mm
MDNQS	Solid State, 2-Wire M8	10 - 28V DC	50	Normally Open	25 to 158°F	RED	IP69K	M8, 3 pin	300 mm
MSN	Solid State auto select, 3-Wire Flying Lead	5 - 30V DC	200	NPN or PNP	25 to 158°F	RED	IP69K		1000 mm
MSNQS	Solid State auto select, 3-Wire M8	5 - 30V DC	200	NPN or PNP	25 to 158°F	RED	IP69K	M8, 3 pin	300 mm

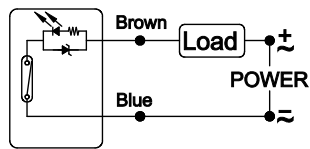


Reed Switches

MRN Reed, 2-Wire Flying Lead

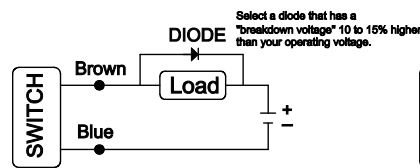


Circuit & Connect Diagram

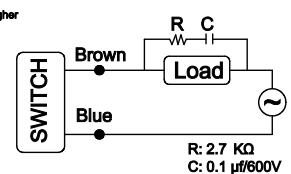


The brown wire series load to the positive (+) and the blue to the negative (-) of power source.

External Protect Circuit

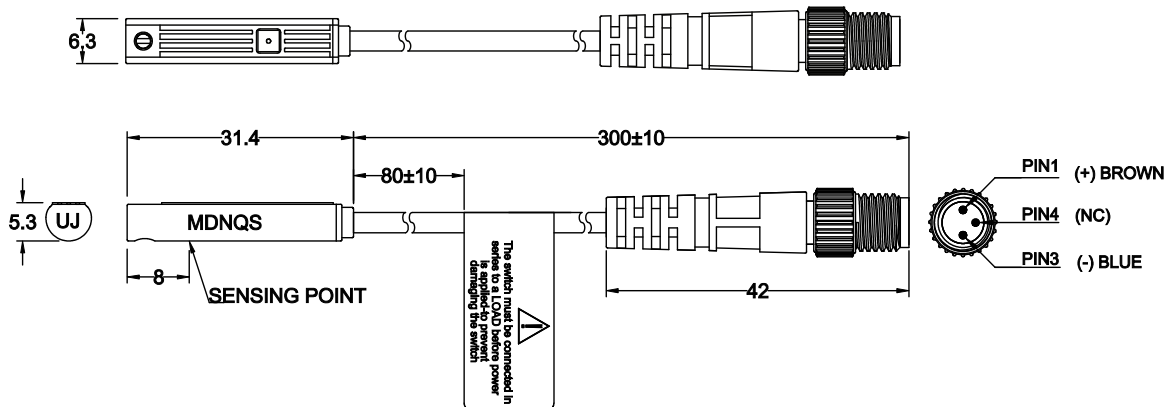


Applicably to
DC Conductive Load

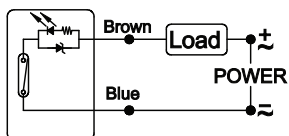


Applicably to
AC Conductive Load

MRNQS Reed, 2-Wire M8

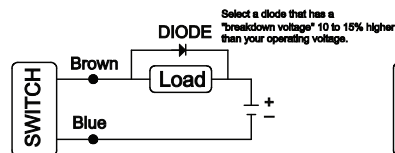


Circuit & Connect Diagram

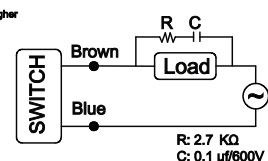


The brown wire series load to the positive (+) and the blue to the negative (-) of power source.

External Protect Circuit



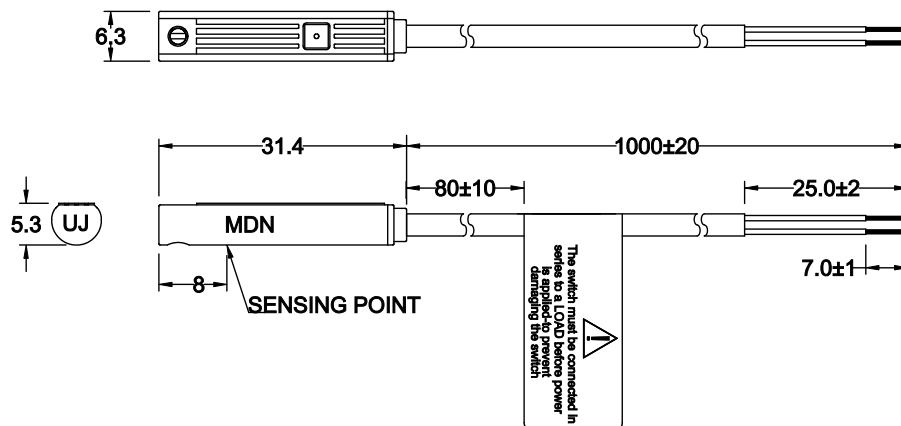
Applicably to
DC Conductive Load



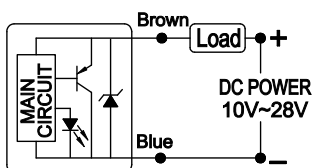
Applicably to
AC Conductive Load

Solid State Switches

MDN Solid State, 2-Wire Flying Lead

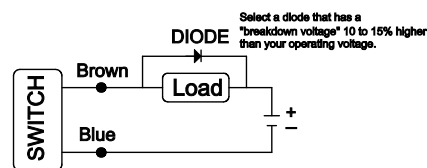


Circuit & Connect Diagram



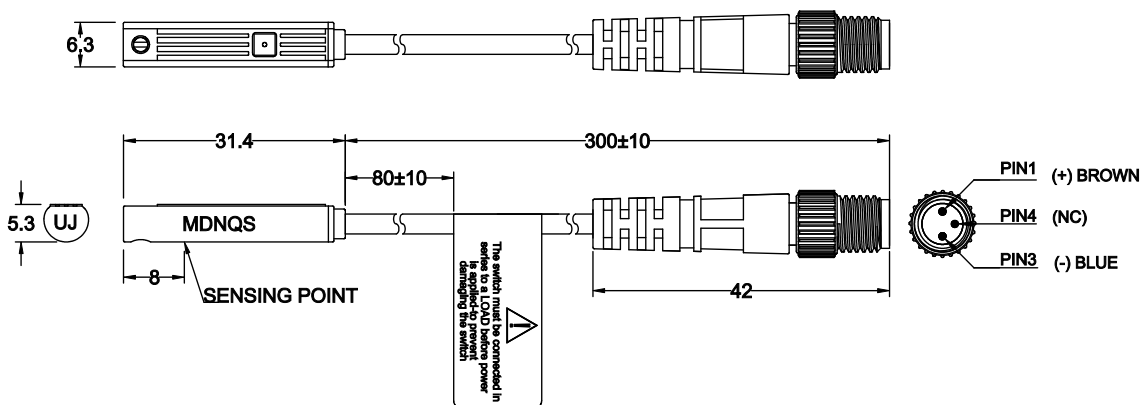
The brown wire series load to the positive (+) and the blue to the negative (-) of power source.

External Protect Circuit

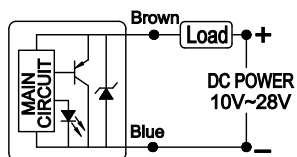


Applicably to DC Conductive Load

MDNQS Solid State, 2-Wire M8

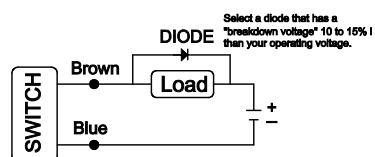


Circuit & Connect Diagram



The brown wire series load to the positive (+) and the blue to the negative (-) of power source.

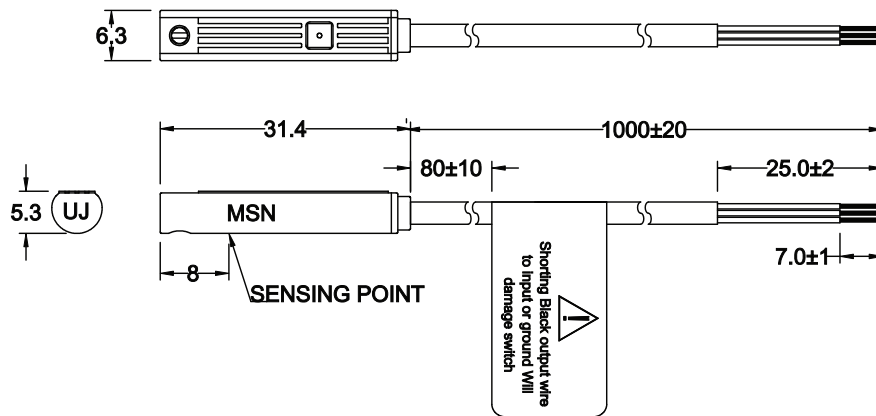
External Protect Circuit



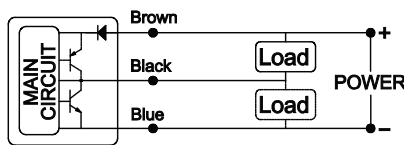
Applicably to DC Conductive Load

Solid State Switches

MSN Solid State Auto Select, 3-Wire Flying Lead

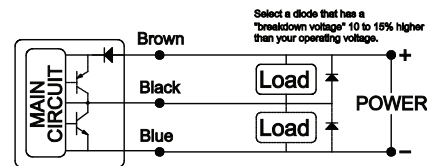


Circuit & Connect Diagram



The brown wire to the positive (+) and the blue to the negative (-) from DC power.
The black wire have to connect to the load.

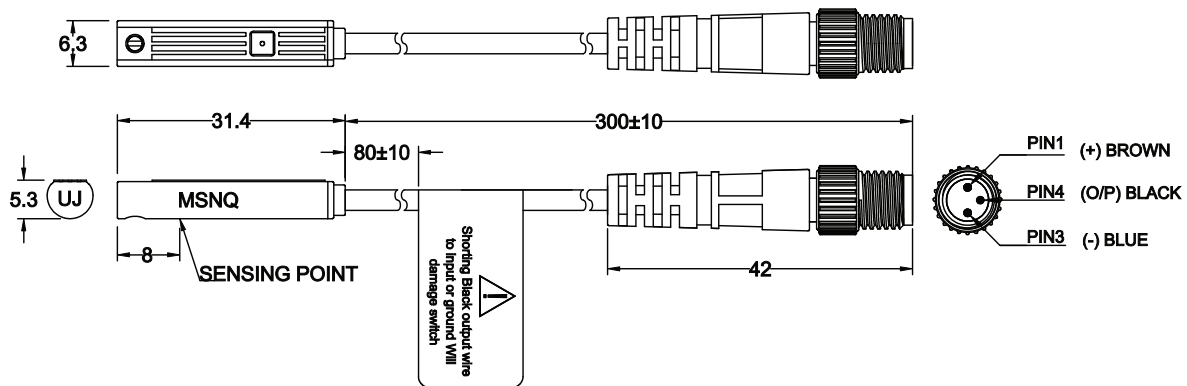
External Protect Circuit



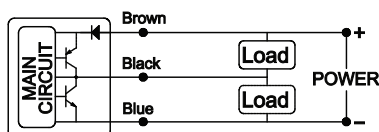
Applicably to Conductive Load

Attach an external diode between Brown(+) and Black(out) when NPN connection
Attach an external diode between Blue(-) and Black(out) when PNP connection

MSNQS Solid State Auto Select, 3-Wire M8

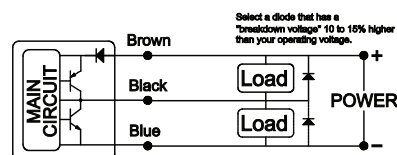


Circuit & Connect Diagram



The brown wire to the positive (+) and the blue to the negative (-) from DC power.
The black wire have to connect to the load.

External Protect Circuit

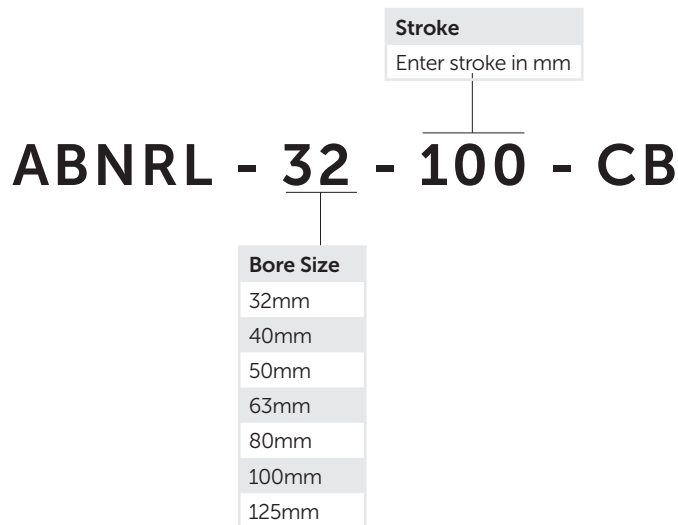
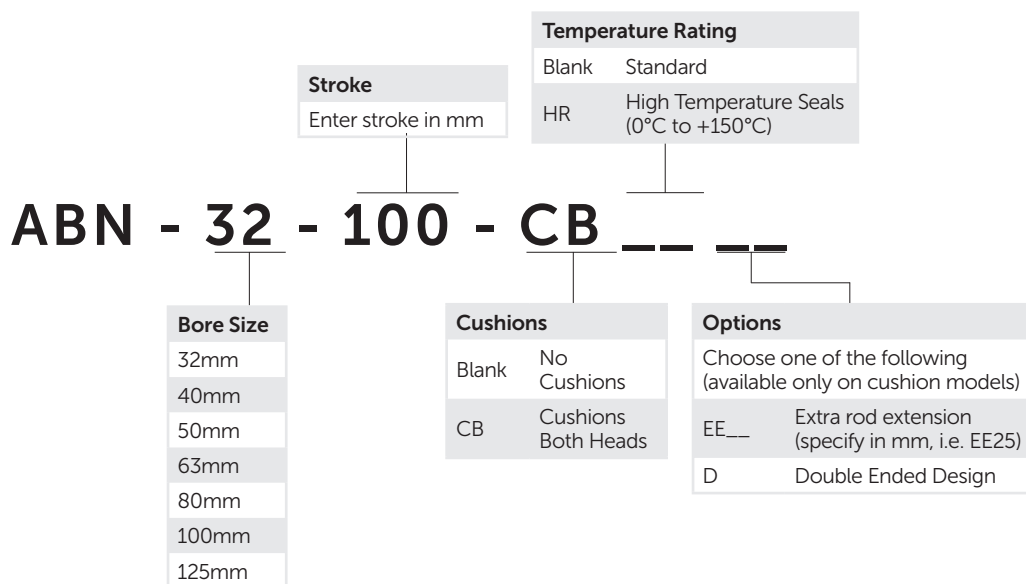


Applicably to Conductive Load

Attach an external diode between Brown(+) and Black(out) when NPN connection
Attach an external diode between Blue(-) and Black(out) when PNP connection

The model number for the ISO 15552 cylinders consists of four alphanumeric clusters. These designate type, bore size, stroke length, and options. A variety of Mounting Kits are available for use with each basic cylinder. Please select the required mounting type from the specifications shown in the appropriate Bore Size Section.

Please refer to the charts below for an example of Model Number ABN-32-100-CB. This is an ISO 15552 Type Cylinder with 32mm Bore Size, 100mm Stroke Length and Cushions on both heads. Magnetic Pistons are standard.



General Specifications	
Operating pressure range ABN	0.5 bar to 10 bar
Operating pressure range ABNRL	3 bar to 8 bar
Operating temperature range	0°C to +80°C
Stroke lengths	1mm to 2800mm
Note: Position Feedback available as a special option	