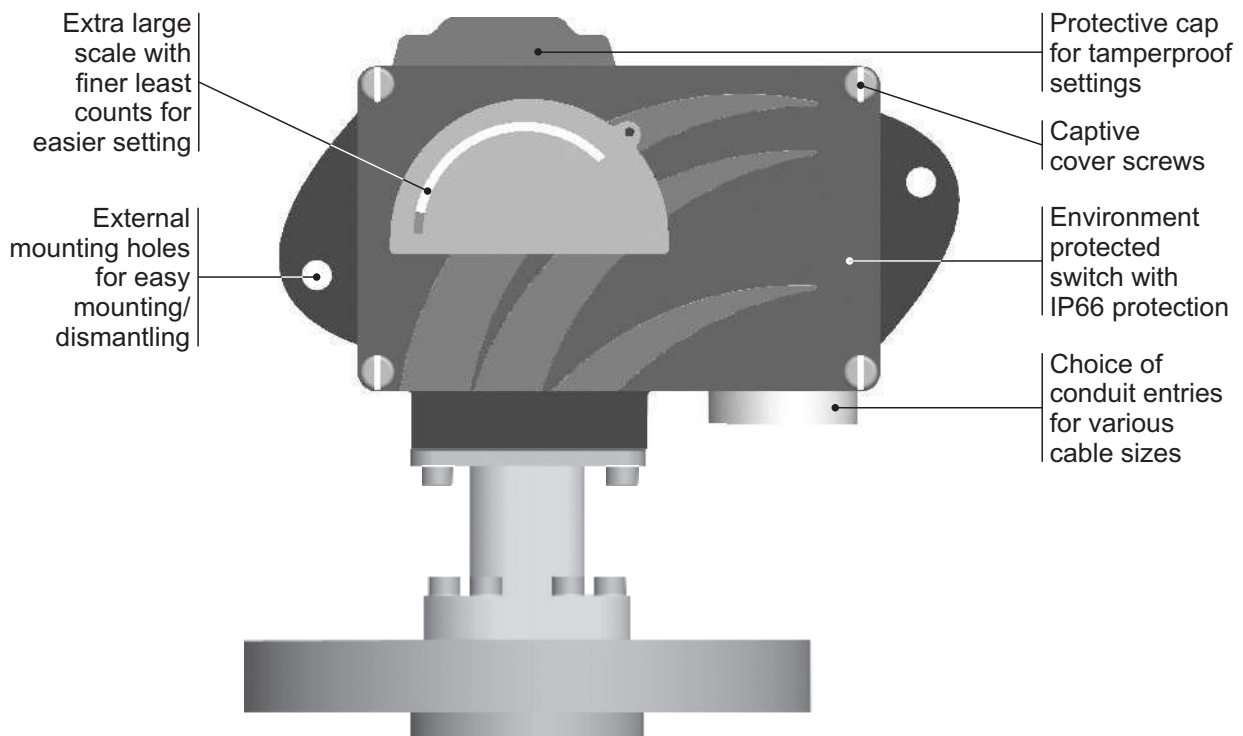
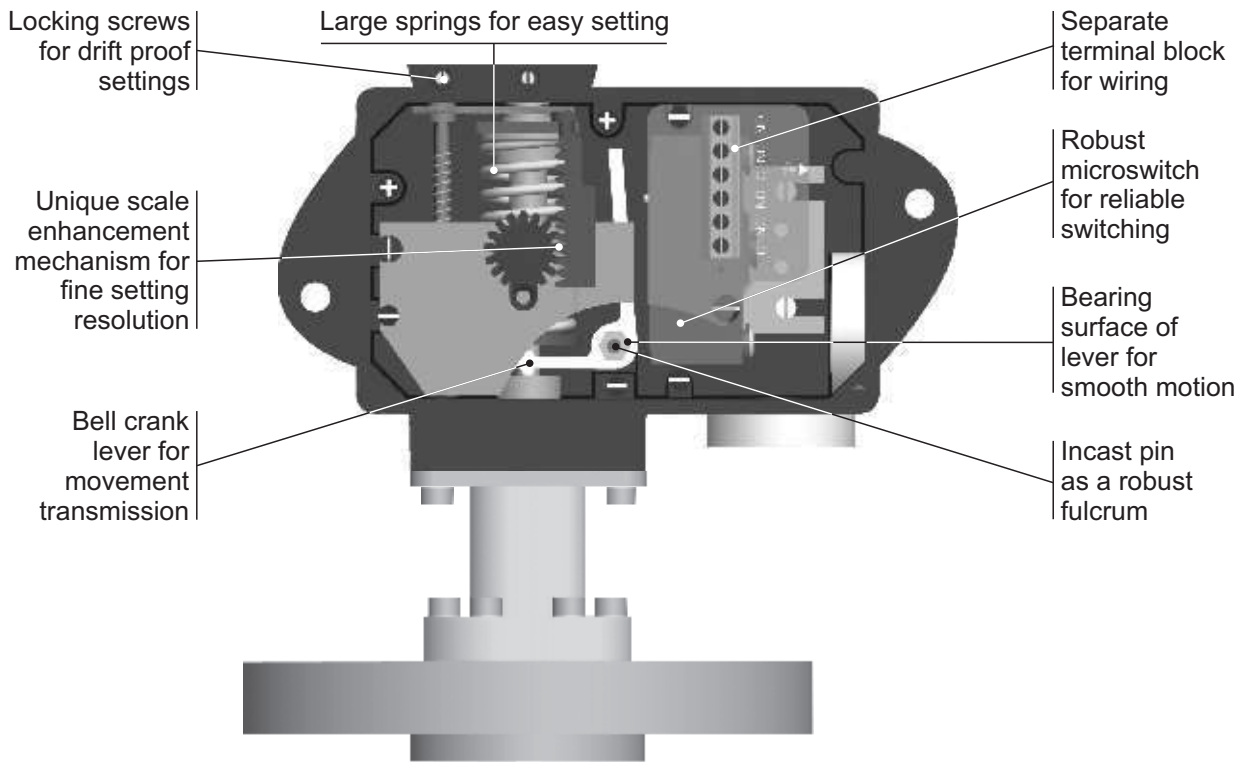


MD FLANGED PRESSURE SWITCHES

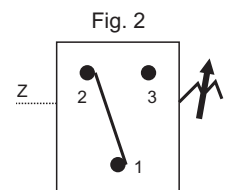


Approximate Weight : Varies with flange size. Please consult sales office.

Some Applications :

In non-hazardous areas for slurry, colloidal solutions, corrosive & non-corrosive working media (unclean working media), etc.

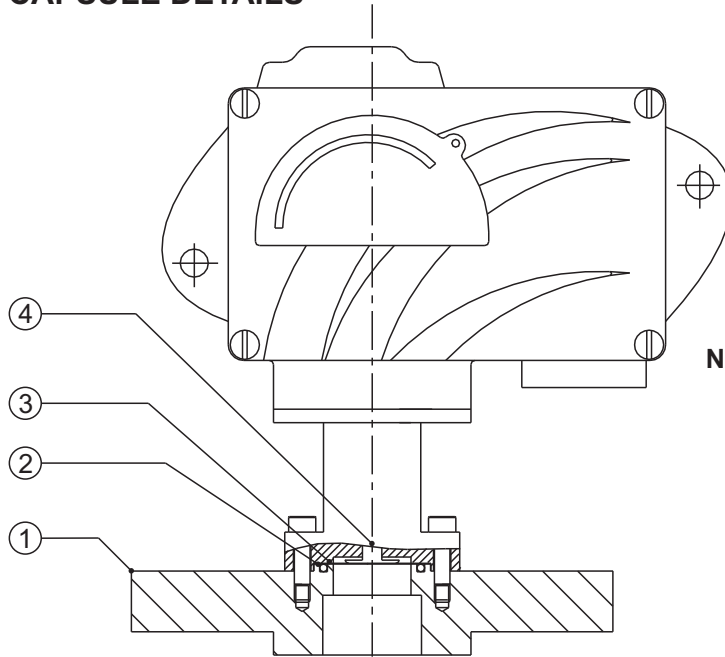
Electrical Connection :



FLANGED PRESSURE SWITCHES MD



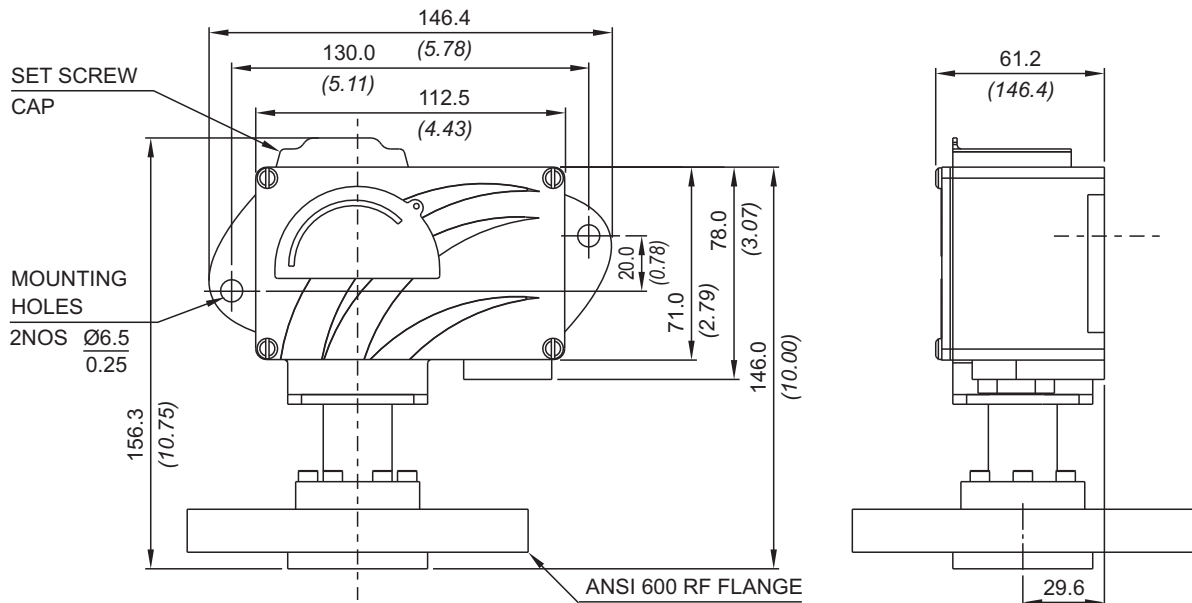
PRESSURE CAPSULE DETAILS



- No. Description**
1. ANSI 600 Flange
 2. Teflon® O-Ring
 3. Diaphragm
 4. Conical Plunger

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MD FLANGED PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi) <i>(1.45 - 14.50)</i>	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
H01	0.1 - 1.0 <i>(1.45 - 14.50)</i>	0.10 <i>(1.45)</i>	As per the class of flange Please consult Sales Office in case you need clarification on availability of maximum working pressure for a particular range.
H02	0.1 - 1.5 <i>(1.45 - 21.76)</i>	0.12 <i>(1.74)</i>	
H03	0.2 - 2.6 <i>(2.90 - 37.71)</i>	0.15 <i>(2.17)</i>	
H04	0.2 - 3.6 <i>(2.90 - 52.21)</i>	0.20 <i>(2.90)</i>	
H07	0.5 - 7.0 <i>(7.25 - 101.50)</i>	0.40 <i>(5.80)</i>	
H10	0.5 - 10.0 <i>(7.25 - 145.04)</i>	0.40 <i>(5.80)</i>	
H15	1.0 - 15.0 <i>(14.50 - 217.56)</i>	0.80 <i>(11.60)</i>	
H30	5.0 - 25.0 <i>(72.52 - 362.6)</i>	0.80 <i>(11.60)</i>	
H4T	5 - 40 <i>(72.52 - 580.15)</i>	5 <i>(72.52)</i>	
H1H	10 - 100 <i>(145.04 - 1450.38)</i>	12 <i>(174.05)</i>	
H2H	7 - 200 <i>(101.53 - 2900.76)</i>	24 <i>(348.09)</i>	

* Minimum differential increases with setpoint (Graphs available on request)

* Differentials of microswitches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 microswitch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

FLANGE CODE TABLE (Please refer page no. 228 & 229 for more options)

	SS316L		Hastelloy C276		Monel		Titanium		Tantalum	
	RF*	FF*	RF*	FF*	RF*	FF*	RF*	FF*	RF*	FF*
150 #										
1" NB	AC	BS	DI	EY	GO	IE	JU	LK	NA	OQ
2" NB	AF	BV	DL	FB	GR	IH	JX	LN	ND	OT
300#										
1" NB	AI	BY	DO	FE	GU	IK	KA	LQ	NG	OW
2" NB	AL	CB	DR	FH	GX	IN	KD	LT	NJ	OZ
2500#										
1" NB	BM	DC	ES	GI	HY	JO	LE	MU	OK	QA
2" NB	BP	DF	EV	GL	IB	JR	LH	MX	ON	QD

*RF = Raised Face

*FF = Flat Face

RANGE AVAILABILITY AS PER BORE SIZES

	H01 to H04	H07	H10	H15	H30	H2T to H2H
1" NB	NA	Yes	Yes	Yes	Yes	Yes
2" NB	Yes	Yes	Yes	Yes	Yes	Yes

HOW TO ORDER INDUSTRIAL FLANGED PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type ANSI flanged	Range Code (values in bar)	Microswitch Type	Flange Size and Material	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MD = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147	1 = 1/2" NPT threads 2 = 3/4" NPT threads 3 = M20 X 1.5 threads	AF1 = pressure switch, fixed differential without scale AF2 = pressure switch, fixed differential with scale in bar AF3 = pressure switch, fixed differential with scale in psi AA1 = pressure switch, adjustable differential without scale AA2 = pressure switch, adjustable differential with scale in bar AA3 = pressure switch, adjustable differential with scale in psi *Available with A9 (in group 6) only	H01 = 0.1 - 1.0 H02 = 0.1 - 1.5 H03 = 0.2 - 2.6 H04 = 0.2 - 3.6 H07 = 0.5 - 7.0 H10 = 0.5 - 10.0 H15 = 1.0 - 15.0 H30 = 5.0 - 25.0 H4T = 5 - 40 H1H = 10 - 100 H2H = 7 - 200	A1 = General purpose microswitch rated at 15 A; 250 VAC A2 = Hermetically sealed for corrosive environments A3 = gold plated contacts for low voltage applications A4 = DPDT configuration A5 = for high DC ratings A7 = 2SPDT switching elements A9 = General purpose microswitch rated at 5 A; 250 VAC Please refer page no. 230 for more microswitch options * Please refer note under Range Selection Table	Please select as per Flange Code Table For other classes and sizes please refer page no. 228 & 229	0 = Neoprene 1 = Teflon 2 = SS316L 3 = Hastelloy C 4 = Monel 400 5 = Titanium 6 = Tantalum

eg. A high range Industrial/ANSI flanged pressure switch with 1/2" NPT cable entry with fixed differential without scale, having 0.1 bar to 1 bar pressure range, with 15Amp. microswitch, and 2" 150# RF SS316L flange & SS316L diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MD	1	AF1	H01	A1	AF	2

Please specify full model number to avoid ambiguity.

FLANGED PRESSURE SWITCHES

MD

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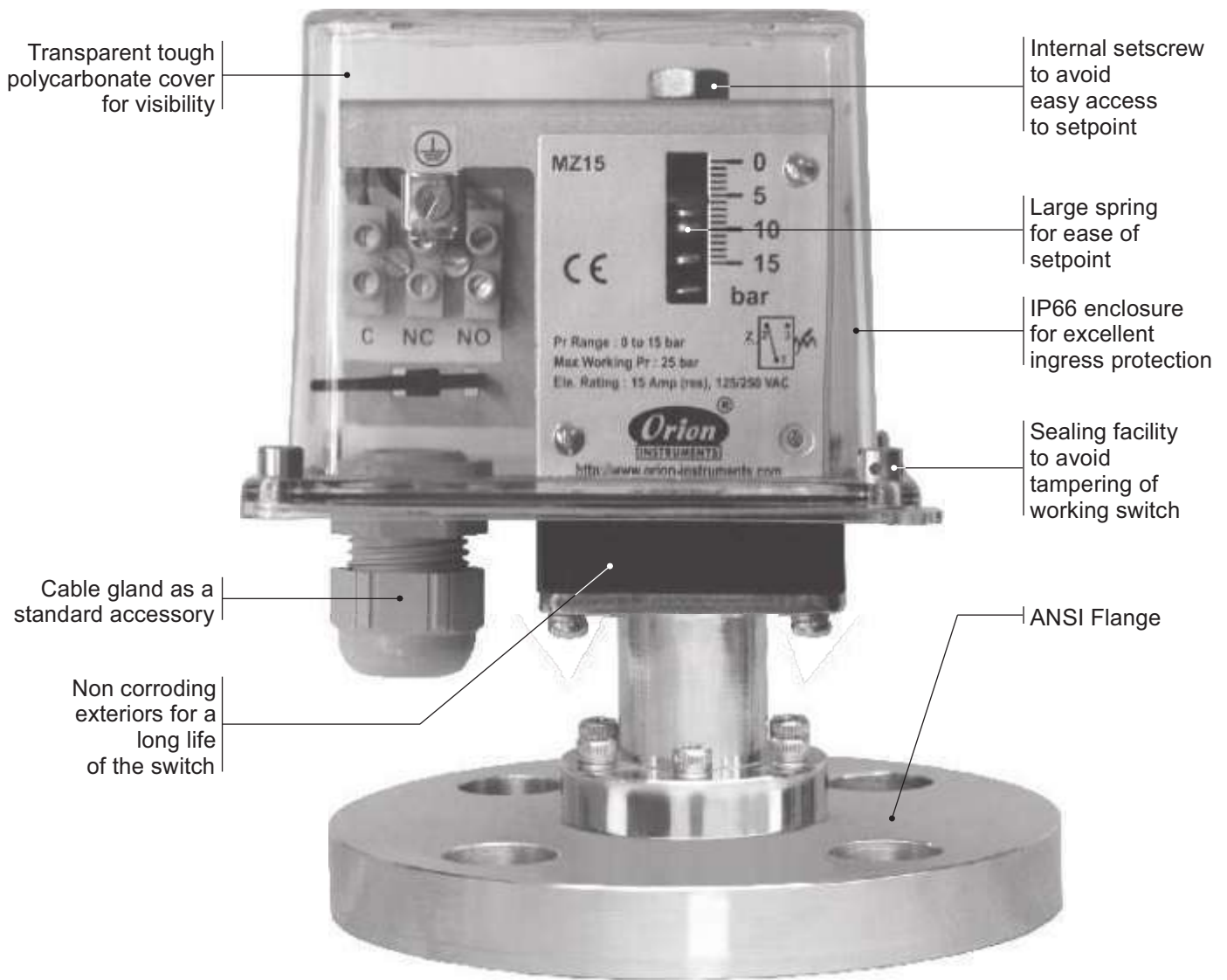
NK Instruments Pvt. Ltd.

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MZ FLANGED PRESSURE SWITCHES



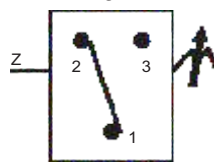
Approximate Weight : 0.900 Kg.

Some Applications :

In non-hazardous areas for slurry, colloidal solutions, corrosive & non-corrosive working media (unclean working media), etc.

Electrical Connection :

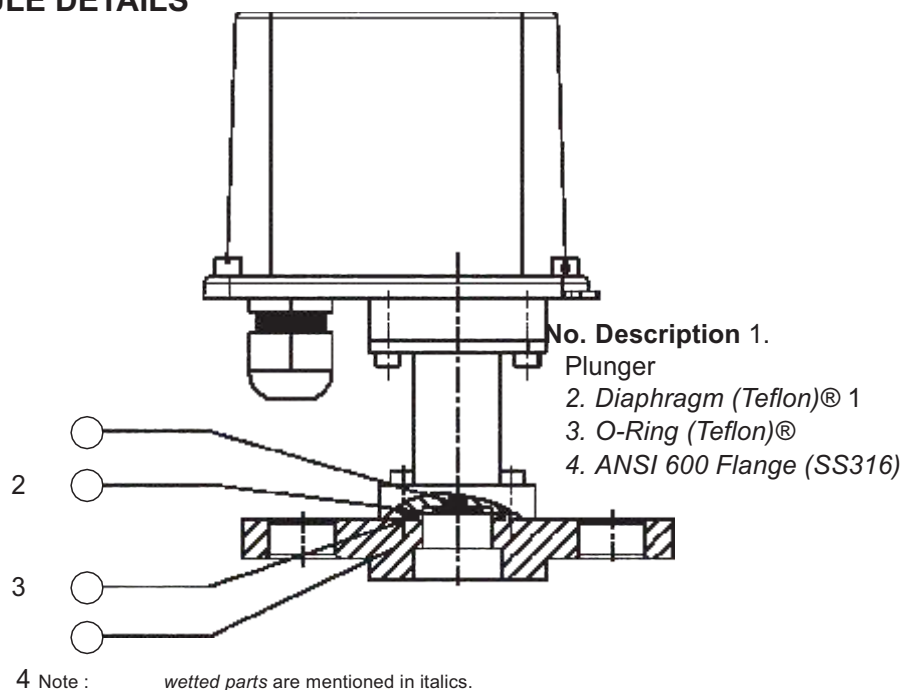
Fig. 2



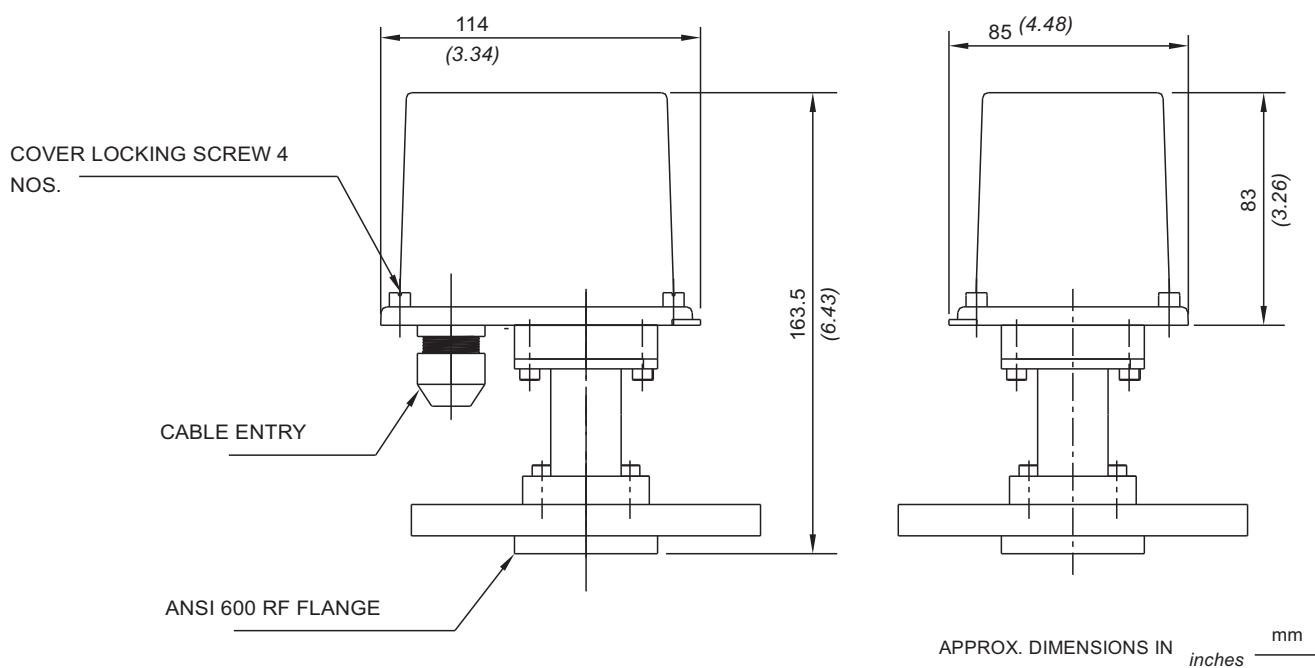
FLANGED PRESSURE SWITCHES MZ



PRESSURE CAPSULE DETAILS



INSTALLATION DRAWING



RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar	Maximum Working Pressure bar (psi)
		Approximate Maximum for	
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.45)	As per the class of flange Please consult Sales Office in case you need clarification on availability of maximum working pressure for a particular range.
H02	0.1 - 1.5 (1.45 - 21.76)	0.12 (1.74)	
H03	0.2 - 2.6 (2.90 - 37.71)	0.17 (2.46)	
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.90)	
H07	0.5 - 7.0 (7.25 - 101.50)	0.40 (5.80)	
H10	0.5 - 10.0 (7.25 - 145.04)	0.40 (5.80)	
H15	1.0 - 15.0 (14.50 - 217.71)	0.80 (11.60)	
H30	5.0 - 25.0 (72.52 - 362.6)	0.80 (11.60)	
H4T	5 - 40 (72.52 - 580.15)	5 (72.52)	
H1H	10 - 100 (145.04 - 1450.38)	12 (174.05)	
H2H	7 - 200 (101.52 - 2900.76)	24 (348.09)	

* Minimum differential increases with set point (Graphs available on request)

* Differentials of micro switches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 micro switch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

FLANGE CODE TABLE (Please refer page no. 228 & 229 for more options)

	SS316L		Hastelloy C276		Monel		Titanium		Tantalum	
	RF*	FF*	RF*	FF*	RF*	FF*	RF*	FF*	RF*	FF*
150#										
1" NB	AC	BS	DI	EY	GO	IE	JU	LK	NA	OQ
2" NB	AF	BV	DL	FB	GR	IH	JX	LN	ND	OT
300#										
1" NB	AI	BY	DO	FE	GU	IK	KA	LQ	NG	OW
2" NB	AL	CB	DR	FH	GX	IN	KD	LT	NJ	OZ
2500#										
1" NB	BM	DC	ES	GI	HY	JO	LE	MU	OK	QA
2" NB	BP	DF	EV	GL	IB	JR	LH	MX	ON	QD

RANGE AVAILABILITY AS PER BORE SIZES

	H01 to H04	H07	H10	H15	H30	H2T to H2H
1" NB	NA	Yes	Yes	Yes	Yes	Yes
2" NB	Yes	Yes	Yes	Yes	Yes	Yes

*RF = Raised Face
*FF = Flat Face

Authorised Dealer



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HOW TO ORDER PROCESS FLANGED PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation <input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with tough transparent polycarbonate enclosure to IP66 as per IS2147	3 = M20 X 1.5 thread for aluminum housing	AF2 = pressure switch, fixed differential with scale in bar AF3 = pressure switch, fixed differential with scale in psi *AA2 = pressure switch, adjustable differential with scale in bar *AA3 = pressure switch, fixed differential with scale in psi *Available with A9 (in group 6) only	H01 = 0.1 - 1.0 H02 = 0.1 - 1.5 H03 = 0.2 - 2.6 H04 = 0.2 - 3.6 H07 = 0.5 - 7.0 H10 = 0.5 - 10.0 H15 = 1.0 - 15.0 H30 = 5.0 - 25.0 H4T = 5 - 40 H1H = 10 - 100 H2H = 7 - 200	A8 = General purpose microswitch rated at 5 A; 250 VAC A7 = 2SPDT microswitches A9 = General purpose microswitch rated @ 5A, 250 VAC * Please refer note under Range Selection Table	Please select as per Flange Code table For other classes and sizes please refer page no. 228 & 229	0 = Neoprene 1 = Teflon 2 = SS 316L 3 = Hastelloy C 4 = Monel 400 5 = Titanium 6 = Tan talum
<input type="checkbox"/>	MD	1	AF1	H01	AI	AF	2

eg. A high range Industrial ANSI flanged pressure switch with 1/2" NPT cable entry with fixed differential without scale, having 0.1 bar to 1 bar pressure range, with 15 Amp. microswitch, and 2" 150# RF SS 316 L flange & SS 316 L diaphragm shall be specified by

Please specify full model number to avoid ambiguity.

Continuous efforts for product development may necessitate changes in these details without notice

Authorised Dealer

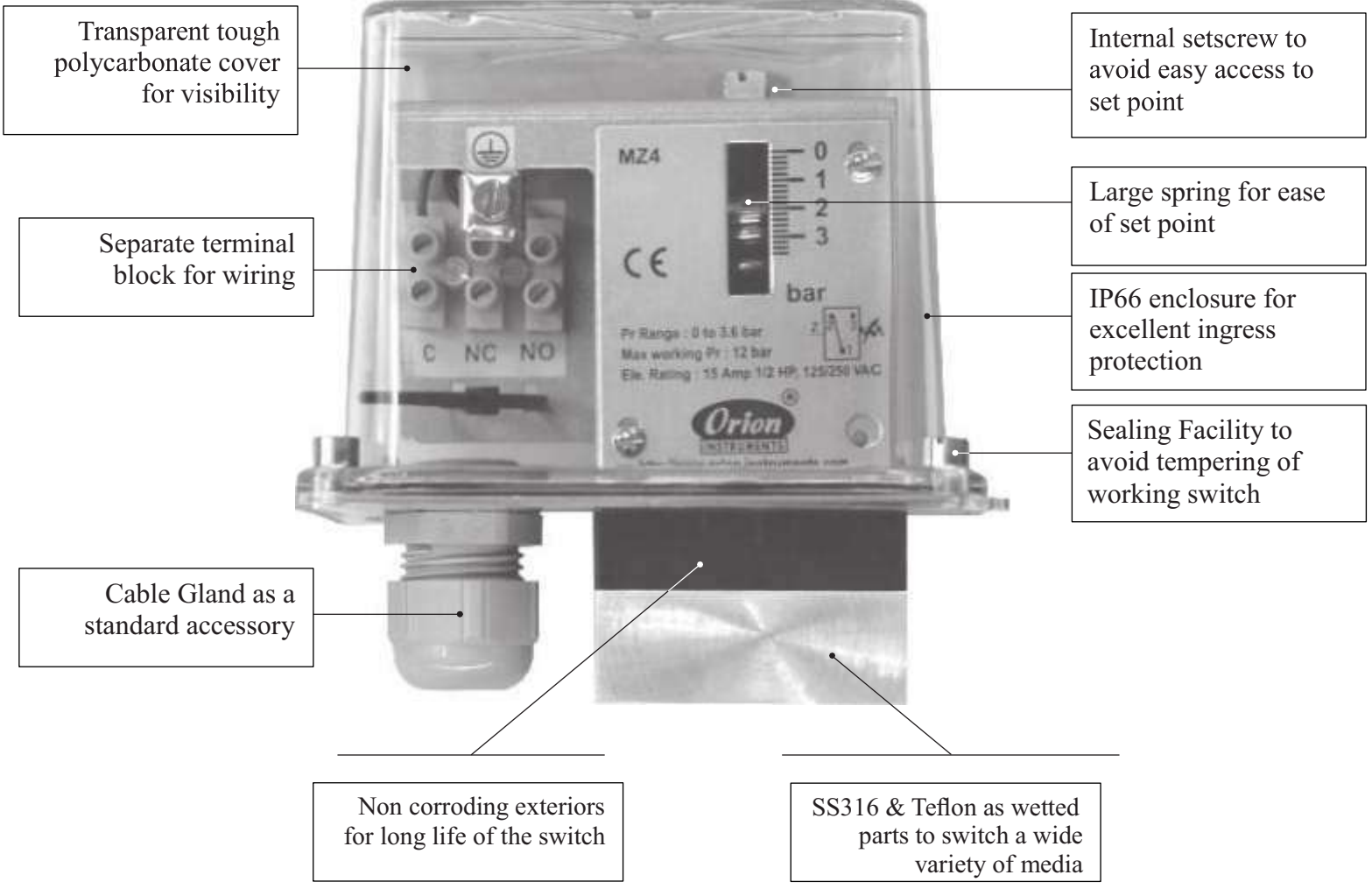
NK Instruments Pvt. Ltd.

B-501/504, 5th floor, Raunak Arcade, Near THC Hospital, Gokhale Road, Naupada, Thane(W) 400602. Maharashtra INDIA
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MZ

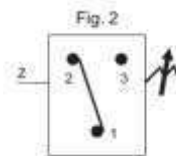
HIGH PROOF HIGH RANGE PRESSURE SWITCH



Approximate Weight : 0.900 Kg.

Some Applications : Used where low set point and high proof pressure is required like tyre moulding machines, etc.

Electrical Connections :

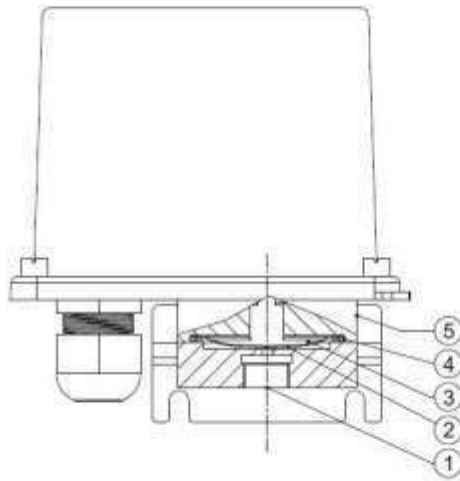


MZ

HIGH PROOF HIGH RANGE PRESSURE SWITCH



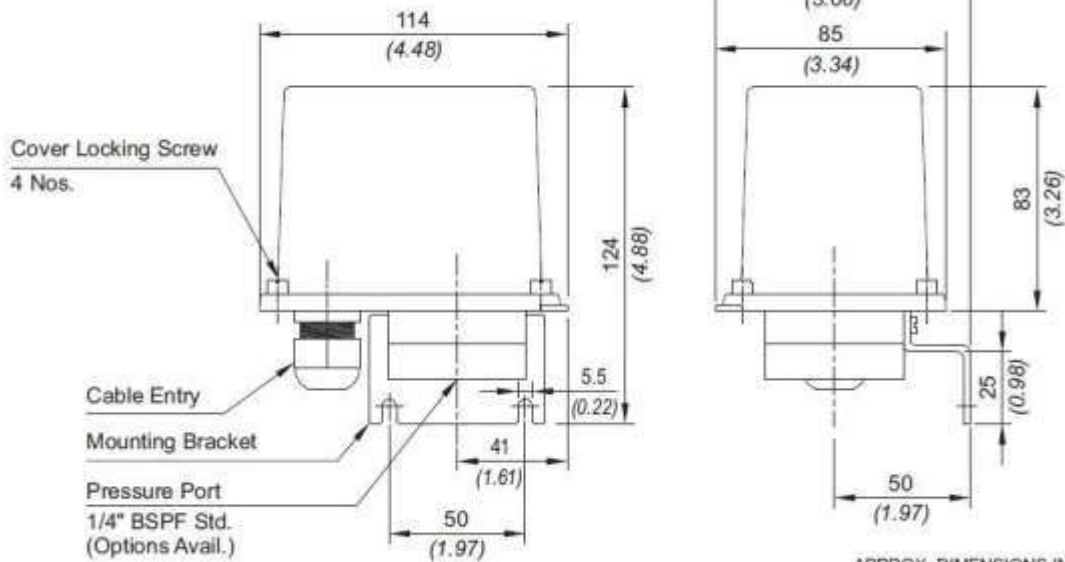
PRESSURE CAPSULE DETAILS



- No. Description**
- 1. *Pressure Housing*
 - 2. *Diaphragm*
 - 3. *Plunger*
 - 4. *O-Ring*
 - 5. *Disc*

Note : *welld parts are mentioned in italics.*

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MZ**HIGH PROOF HIGH RANGE PRESSURE SWITCH****RANGE SELECTION TABLE**

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
PP5	0.1 - 0.5 (1.45 - 7.25)	0.20 (2.90)	70 (1015.26)
P01	0.1 - 1.0 (1.45 - 14.50)	0.20 (2.90)	70 (1015.26)
P02	0.1 - 1.5 (1.45 - 21.76)	0.40 (5.80)	70 (1015.26)
P03	0.2 - 2.6 (2.90 - 37.71)	0.40 (5.80)	70 (1015.26)
P04	0.2 - 3.6 (2.90 - 52.21)	0.50 (7.25)	70 (1015.26)
P07	0.5 - 7.0 (7.25 - 101.53)	1.00 (14.50)	70 (1015.26)
P10	0.5 - 10.0 (7.25 - 145.04)	1.00 (14.50)	70 (1015.26)
P15	1.0 - 15.0 (14.50 - 217.56)	1.5 (21.76)	70 (1015.26)
P30	5.0 - 25.0 (72.52 - 362.6)	1.5 (21.76)	70 (1015.26)

*Minimum differential increases with set point (Graphs available on request), results for neoprene diaphragm.

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Gtalk: nkstruments2006



Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non Standard Allocation	Model	Cable entry size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
o Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer	MZ – Process pressure switch with tough transparent polycarbonate enclosure to IP66 as per IS 2147	3 = M20 X 1.5 cable gland	PF2 = (0.1-0.5) Pressure switch, fixed differential with scale PF3=Pressure switch, fixed differential with scale in psi PA2*=Pressure Switch, adjustable differential with scale in bar PA3*=Pressure switch . adjustable differential with scale in psi *Availability only with option A9 in Group 6	PP5 = (0.1-0.5) P01=(0.1-1.0) P02=(0.1-1.5) P03=(0.2-2.6) P04=(0.2-3.6) P07=(0.5-7.0) P10=(0.5-10.0) P15=(1.0-15.0) P30=(5.0-25.0)	A8 = General purpose microswitch rated at 5A; 250VAC A7 = 2SPDT microswitch A9 = General purpose microswitch rated @ 5A, 250 VAC	S1 = SS316 / ¼” BSP (F) S2 = SS316 / ¼” NPT (F)	0 = Neoprene 1 = Teflon 2 = SS 316 L

E.g. A process pressure switch with fixed differential having 0.1 bar to 1 bar pressure range, with 5 amp microswitch, SS316 pressure housing with ¼” BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
o	MZ	3	PF2	P01	A8	S1	0

Continuous efforts for product development may necessitate changes in these details without notice

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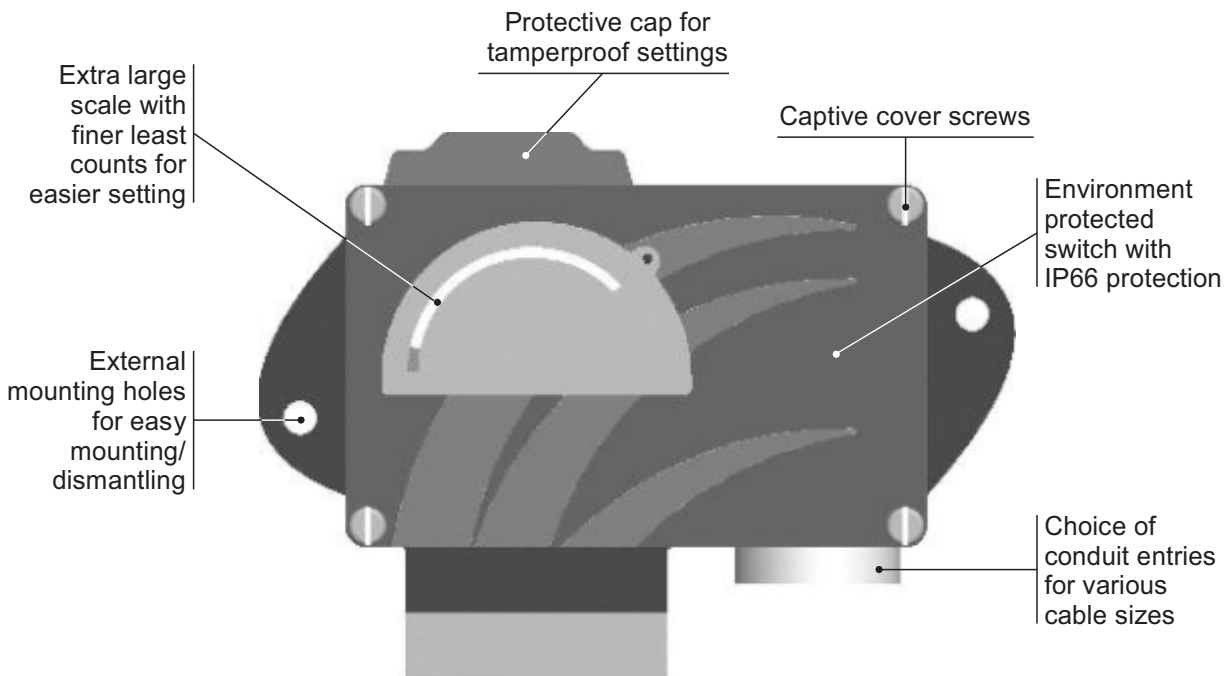
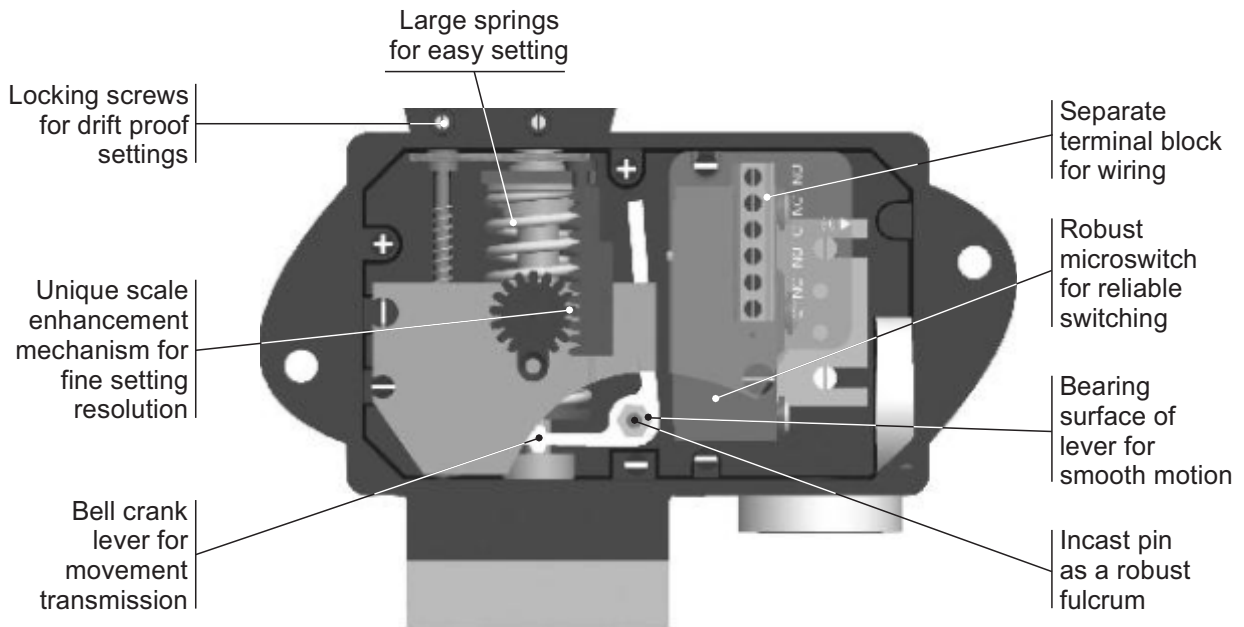
B-501/504, 5th floor, Raunak Arcade, Near THC Hospital, Gokhale Road, Naupada, Thane(W) 400602. Maharashtra INDIA
E-Mail: sales@nkstruments.com
Skype: nitinkelkarskype

Telefax Nos.: 91-22-25301330 / 31 / 32
Web: http://www.nkstruments.com
Gtalk: nkstruments2006



MD

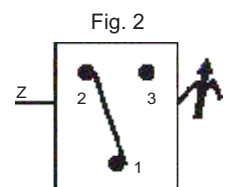
HIGH PROOF HIGH RANGE PRESSURE SWITCHES



Approximate Weight : 1.200 Kg.

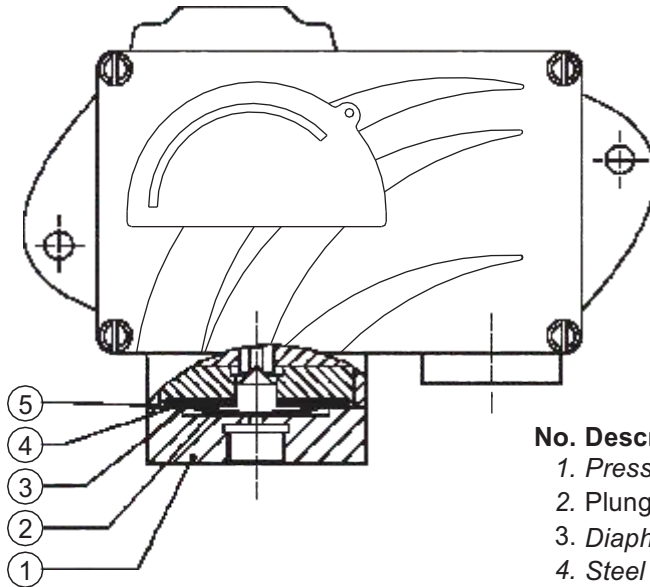
Some Applications : High pressure gas handling systems, in non-hazardous areas where the maximum pressure is high and tripping value is low.

Electrical Connection :





PRESSURE CAPSULE DETAILS

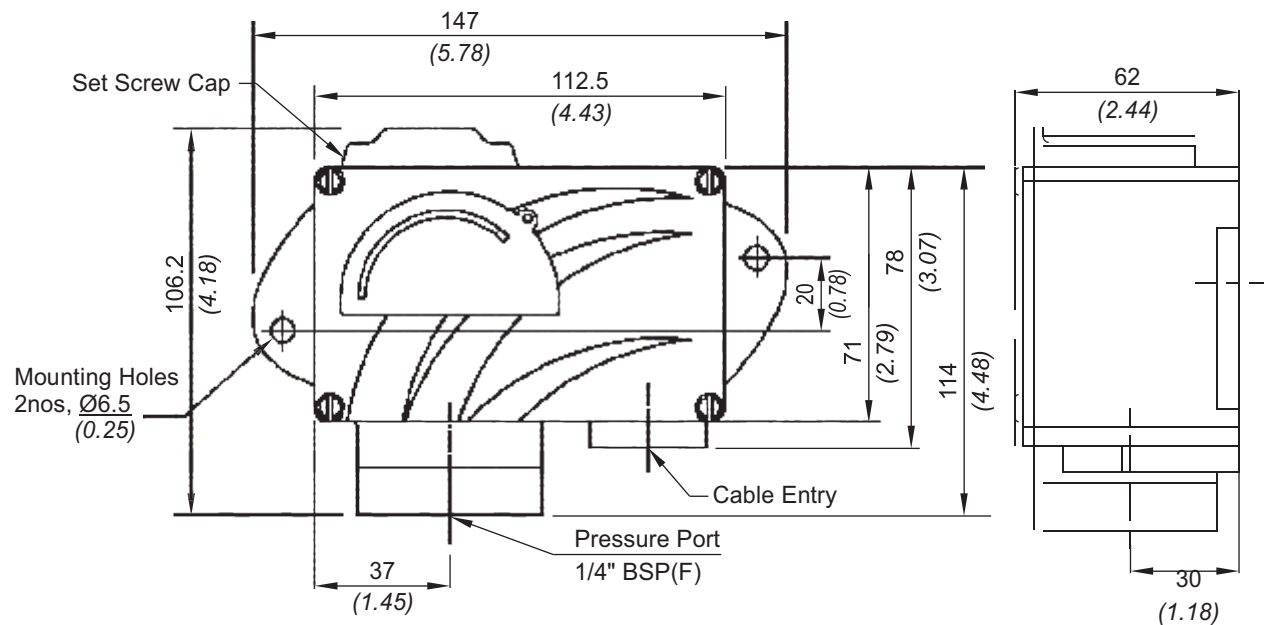


No. Description

1. Pressure Housing
2. Plunger
3. Diaphragm (Teflon®)
4. Steel Ring (SS316 as per pr. hsg. material)
5. O-Ring (Teflon®)

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

MD**HIGH PROOF HIGH RANGE PRESSURE SWITCHES****RANGE SELECTION TABLE**

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
PP	0.067 - 0.213 (0.97 - 3.09)	0.04 (0.58)	70 (1015.27)
PP5	0.1 - 0.5 (1.45 - 7.25)	0.15 (2.176)	70 (1015.27)
P01	0.1 - 1.0 (1.45 - 14.50)	0.20 (2.90)	70 (1015.27)
P02	0.1 - 1.5 (1.45 - 21.76)	0.20 (2.90)	70 (1015.27)
P03	0.2 - 2.6 (2.90 - 37.71)	0.30 (4.35)	70 (1015.27)
P04	0.2 - 3.6 (2.90 - 52.21)	0.40 (5.80)	70 (1015.27)
P07	0.5 - 7.0 (7.25 - 101.50)	0.60 (8.70)	70 (1015.27)
P10	0.5 - 10.0 (7.25 - 145.04)	0.80 (11.60)	70 (1015.27)
P15	1.0 - 15.0 (14.5 - 217.6)	1.50 (23.21)	70 (1015.27)
P30	5.0 - 25.0 (72.52 - 362.5)	2.00 (29.00)	70 (1015.27)

*Minimum differential increases with setpoint, values with neoprene diaphragm (Graphs available on request)

*** Note :**

Microswitches A2 through A9 can be supplied in some ranges and differentials will vary with microswitch used. Please contact sales office for details. Please check availability of adjustable differential with sales office.

Authorised Dealer

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HOW TO ORDER INDUSTRIAL HIGH PROOF HIGH RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MD = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147	1 = 1/2" NPT threads 2 = 3/4" NPT threads 3 = M20 X 1.5 threads	PF1 = pressure switch, fixed differential without scale PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA1 = pressure switch, adjustable differential without scale *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available with A9 (in group 6) only	PP = (0.067 - 0.213) PP5 = (0.1 - 0.5) P01 = (0.1 - 1.0) P02 = (0.1 - 1.5) P03 = (0.2 - 2.6) P04 = (0.2 - 3.6) P07 = (0.5 - 7.0) P10 = (0.5 - 10.0) P15 = (1.0 - 15.0) P30 = (5.0 - 25.0)	A1 = General purpose microswitch rated at 15 A; 250 VAC *A2 = Hermetically sealed for corrosive environments *A3 = gold plated contacts for low voltage applications *A4 = DPDT configuration *A5 = for high DC ratings *A7 = 2SPDT switching elements *A9 = General purpose microswitch rated at 5 A; 250 VAC Please refer page no. 226 & 227 for more pressure port options	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F)	0 = Neoprene 1 = Teflon 2 = SS 316L
<input type="checkbox"/>	MD	1	PF1	P01	A1	S1	0

eg. A high proof high range weatherproof switch with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 0.1 bar to 1 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Please specify full model number to avoid ambiguity.

Continuous efforts for product development may necessitate changes in these details without notice

Authorised Dealer



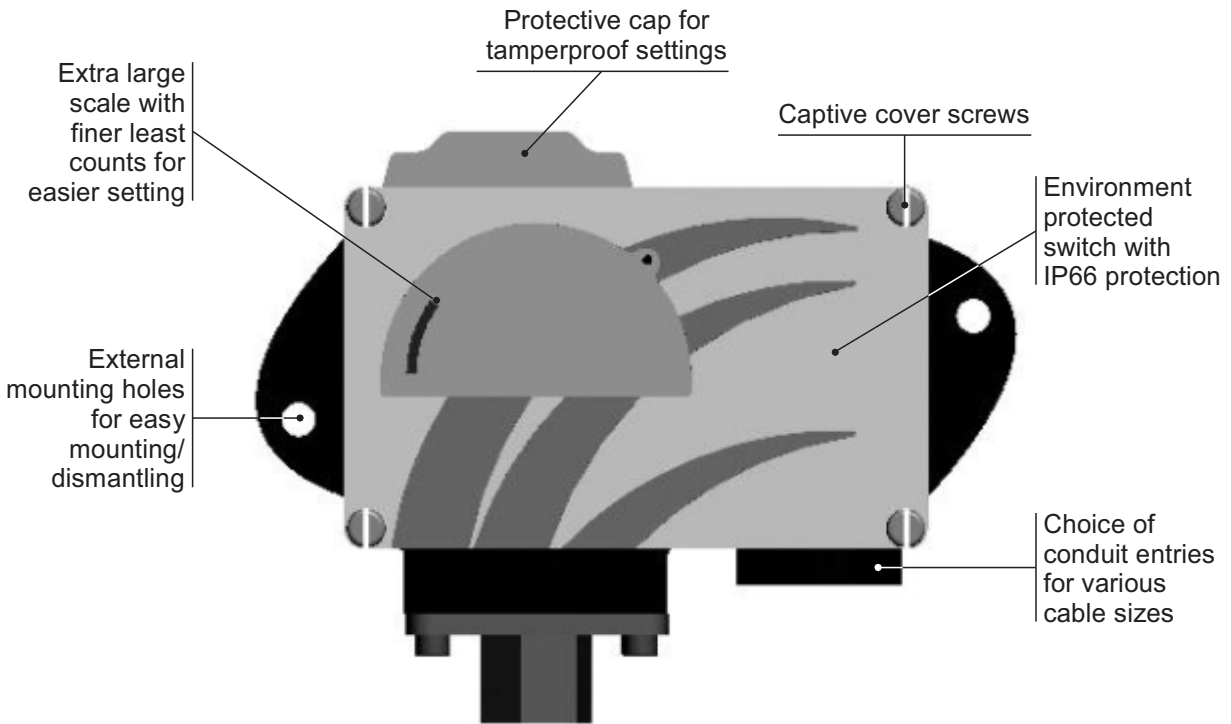
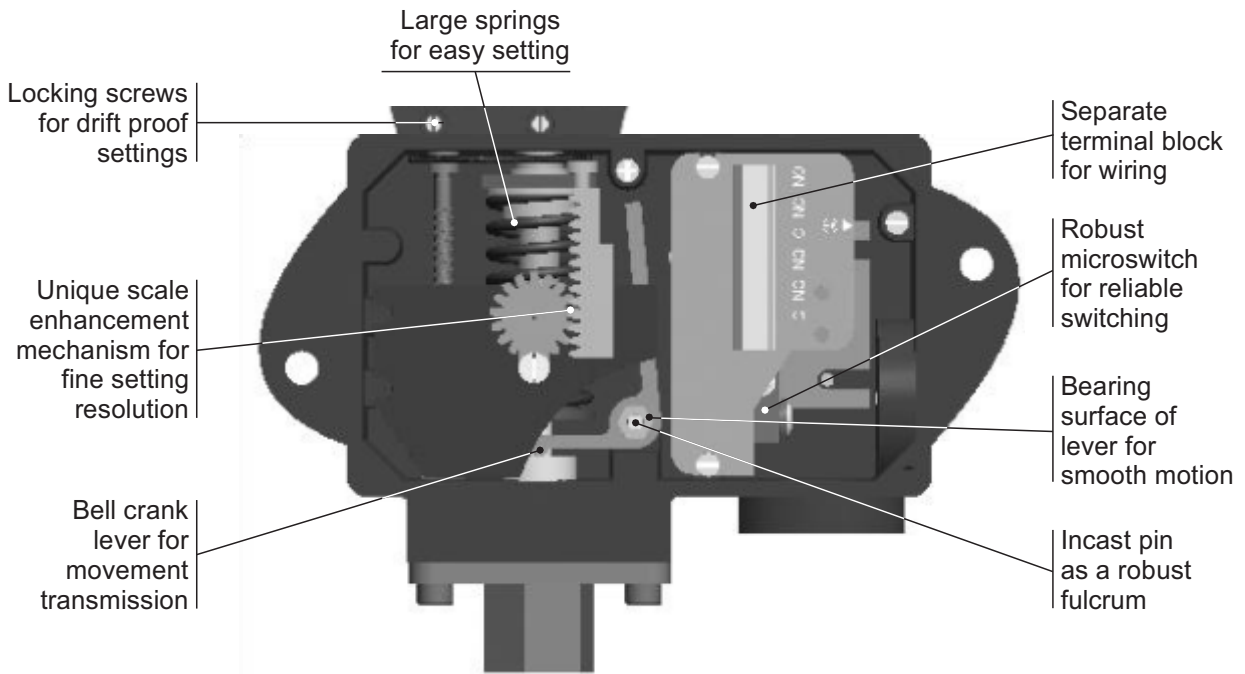
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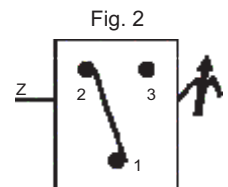
MD HIGH RANGE BELLOWS SWITCHES



Approximate Weight : 0.700 Kg.

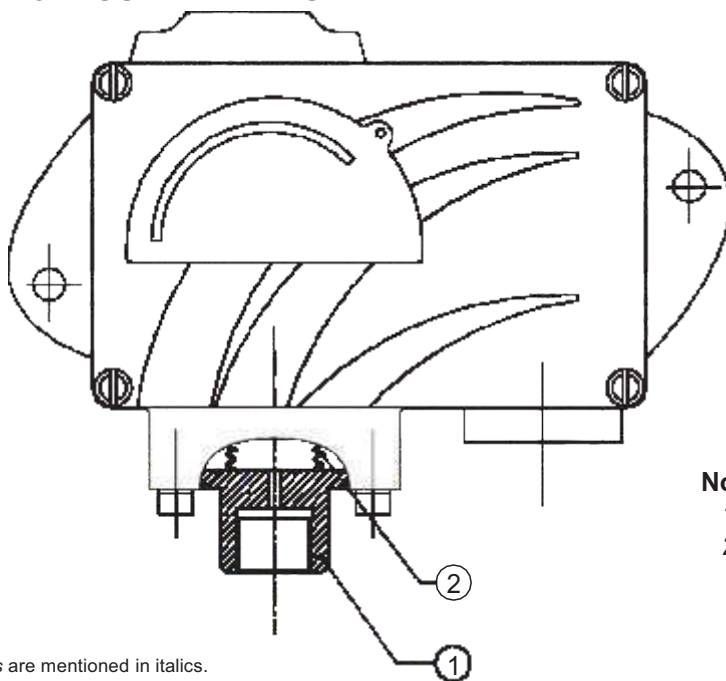
Some Applications : For cryogenic applications.

Electrical Connection :





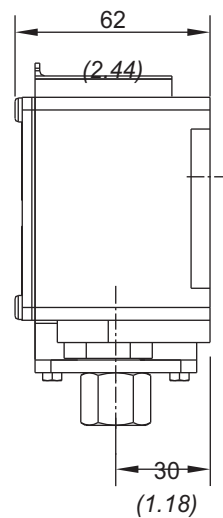
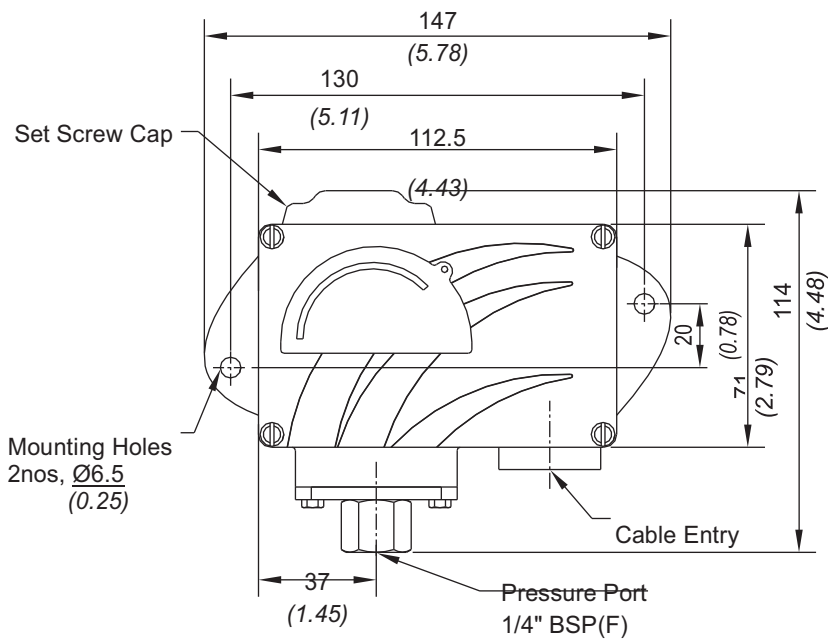
PRESSURE CAPSULE DETAILS



- No. Description**
 1. Pressure Port
 2. Metallic Bellow

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN mm
inches

MD HIGH RANGE BELLOWS SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	†Differential bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.45)	12 (174.05)
H02	0.1 - 1.5 (1.45 - 21.76)	0.12 (1.74)	12 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.17 (2.46)	12 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.90)	12 (174.05)
H07	0.5 - 7.0 (7.25 - 101.50)	0.40 (5.80)	12 (174.05)
H10	0.5 - 10.0 (7.25 - 145.03)	0.40 (5.80)	25 (362.6)
H15	1.0 - 15.0 (14.50 - 217.56)	0.80 (11.60)	25 (362.6)
H30	5.0 - 25.0 (72.52 - 362.59)	0.80 (11.60)	35 (507.63)
H4T	5.0 - 40.0 (72.52 - 580.15)	5.0 (72.52)	100 (1450.37)
H1H	10.0 - 100.0 (145.03 - 1450.37)	12 (174.05)	200 (2900.76)

† Minimum differential increases with setpoint, (Graphs available on request)

*** Note :**

Microswitches A2 through A9 can be supplied in some ranges and differentials will vary with microswitch used. Please contact sales office for details. Please check availability of adjustable differential with sales office.

Authorised Dealer



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HOW TO ORDER INDUSTRIAL HIGH RANGE BELLOWS PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Bellows
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MD = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147	1 = 1/2" NPT threads 2 = 3/4" NPT threads 3 = M20 X 1.5 threads	PF1 = pressure switch, fixed differential without scale PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA1 = pressure switch, adjustable differential without scale *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available with A9 (in group 6) only	H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6) H07 = (0.5 - 7.0) H10 = (0.5 - 10.0) H15 = (1.0 - 15.0) H30 = (5.0 - 25.0) H4T = (5.0 - 40.0) H1H = (10.0 - 100.0)	A1 = General purpose microswitch rated at 15 A; 250 VAC *A2 = Hermetically sealed for corrosive environments *A3 = gold plated contacts for low voltage applications *A4 = DPDT configuration *A5 = for high DC ratings *A7 = 2SPDT switching elements *A9 = General purpose microswitch rated at 5 A; 250 VAC Please refer page no. 230 for more microswitch options * Please refer note under Range Selection Table	B1 = Bellows / 1/4" BSP(F) B2 = Bellows / 1/4" NPT(F)	2 = SS 316L

eg. A high range weatherproof bellows switch with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 0.1 bar to 1 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & SS316L bellows shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MD	1	PF1	H01	A1	B1	2

Please specify full model number to avoid ambiguity.

Continuous efforts for product development may necessitate changes in these details without notice

Authorised Dealer



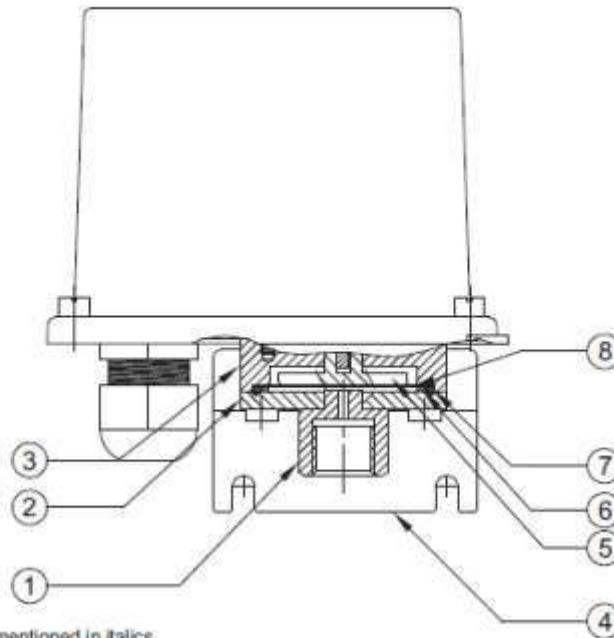
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PRESSURE CAPSULE DETAILS

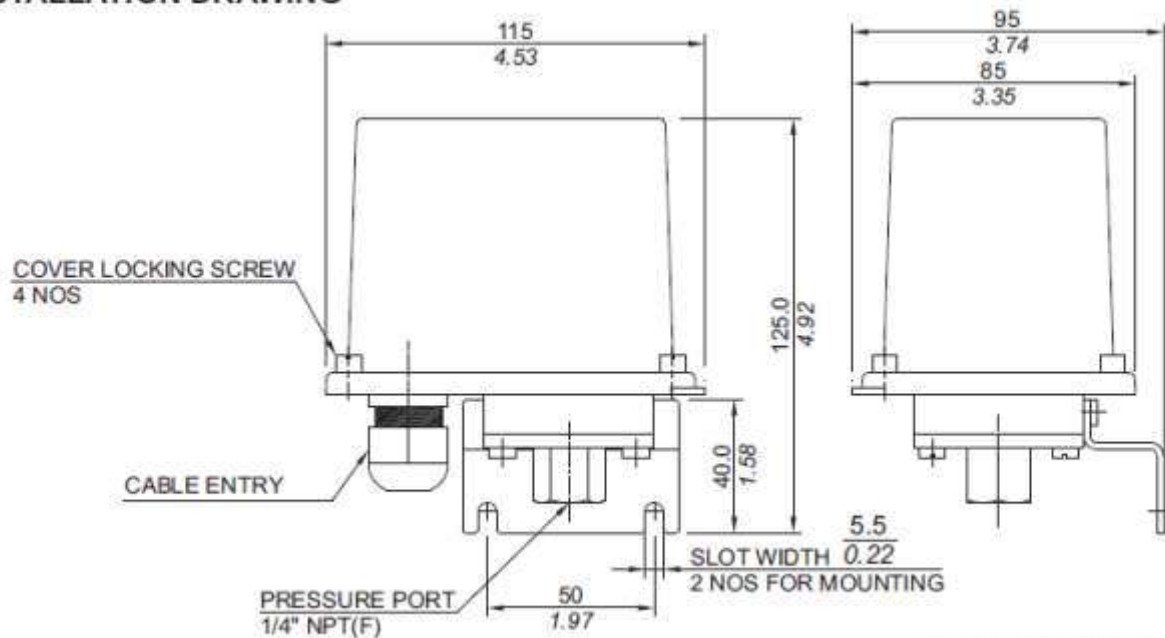


No. Description

1. Pressure Port (SS316)
2. Housing Plate (SS316)
3. Disc
4. Mounting Bracket
5. Plunger
6. Ring (SS316)
7. O-Ring (Teflon®)
8. Diaphragm (Teflon®)

Note : wetted parts are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

RANGE SELECTION TABLE

Model Code	Range † psi	*Approximate Maximum Differential psi	Maximum Working Pressure psi
MZ-1A	1.5 – 15.0	2.0	200
MZ-4A	3.0- 50.0	3.0	200
MZ-7A	7.0 – 100.0	6.0	200
MZ-10A	7.0 - 150.0	12.0	350
MZ-15A	15.0 - 200.0	20.0	350
MZ-30A	70.0 - 350.0	20.0	500

*Minimum differential increases with set point (Graphs available on request)

†Rising pressure for MD series

SPECIFICATIONS :

Range	As per model code
Electrical Rating	15 Amp, 250 VAC, SPDT snap action micro switch
Enclosure	IP66 standard , transparent tough polycarbonate cover
Wetted Parts	SS 316 & Teflon
Pressure Port	¼” NPTF standard
Cable gland	M20 X 1.5 standard (polyimide)
Maximum temperature of working medium	80°C maximum, Please use impulse tubing for higher temperatures

- IP66 is approximately equivalent to NEMA 4X

HOW TO ORDER MZ - A SERIES OEM PRESSURE SWITCHES

Please select model code from Range Selection table

Continuous efforts for product development may necessitate changes in these details without notice

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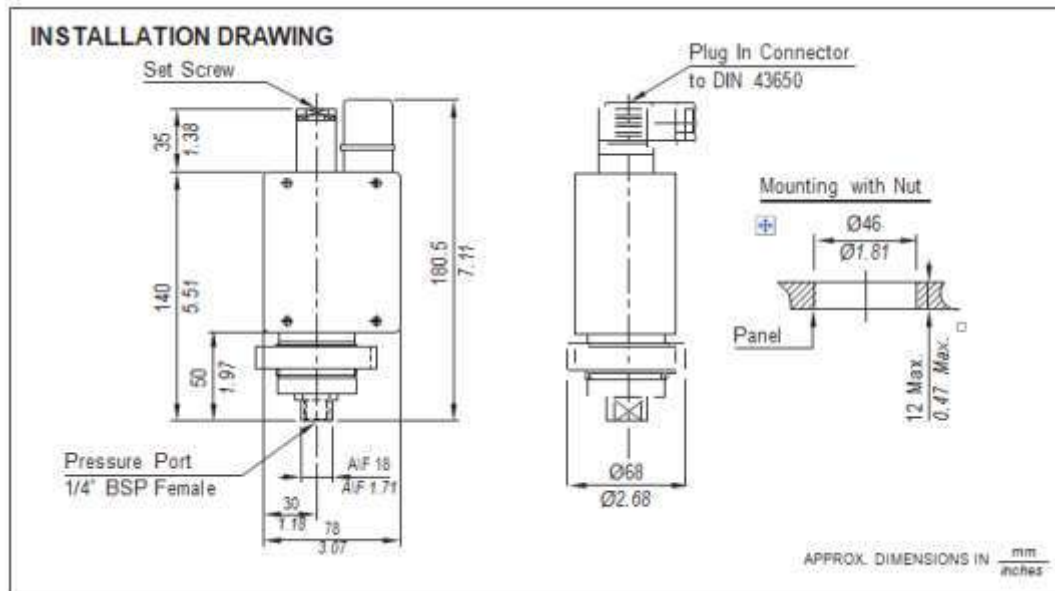
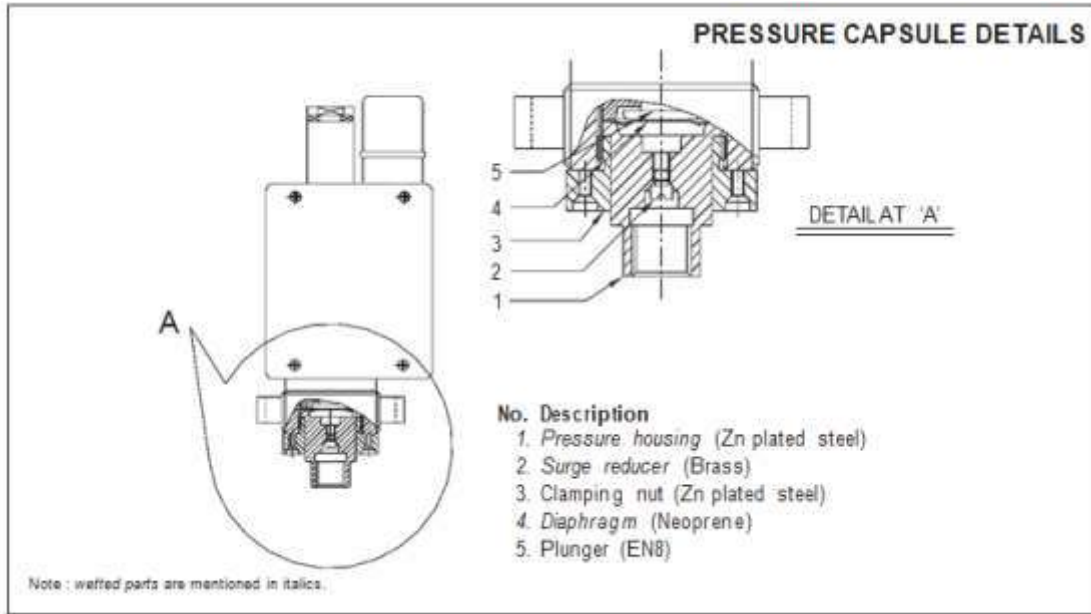
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DT HIGH RANGE PRESSURE SWITCH



DT

HIGH RANGE PRESSURE SWITCH

General information:

DT series pressure switches have a cast aluminum enclosure (IP54) and are recommended for panel / line mounted hydraulic / pneumatic applications. The repeat accuracy is better than $\pm 2\%$ FSR. An electrical connector to DIN 43650 is provided for wiring. Pressure port is $\frac{1}{4}$ " BSPF standard.

Features:

- Robust construction
- 15 A switching possible (optional) Panel mounting
- Protective lock to avoid tampering (optional)
- Electrical rating : 5A,250VAC;0.2A,250VDC(RES.) (optionally 15 A, 250 VA C)

Some Applications : Used in high pressure power packs, press application, space and defence, etc.

Range Selection Table

Range Code	Range (rising pressure) bar (psi)	*Approximate Maximum Differential bar (psi)	Maximum Working Pressure bar (psi)
10	1 - 10 (14.50 - 145.04)	1 (14.50)	15 (217.71)
15	2 - 15 (29.00 - 217.71)	2 (29.00)	15 (217.71)

*differential rises with setpoint (Graphs available on request)

How to order DT high range pressure switches.

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Microswitch	Wetted Parts	Protective Lock	
DT - High Range Pressure Switch	Please select as per range code table	C - rated at 5A, 250 VAC (res.) H - rated at 15A, 250 VAC (res.)	S - Standard	U - without any lock P - with a protective lock	Reserved for non standard modifications. Code will be given by company

eg. A hydraulic pressure switch, pressure range from 1 to 10 bar, with a standard 5 A,250 VAC microswitch, standard wetted parts and a protective lock shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
DT	10	C	S	P	-

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, pressure switches without a protective lock & with standard wetted parts will be supplied.

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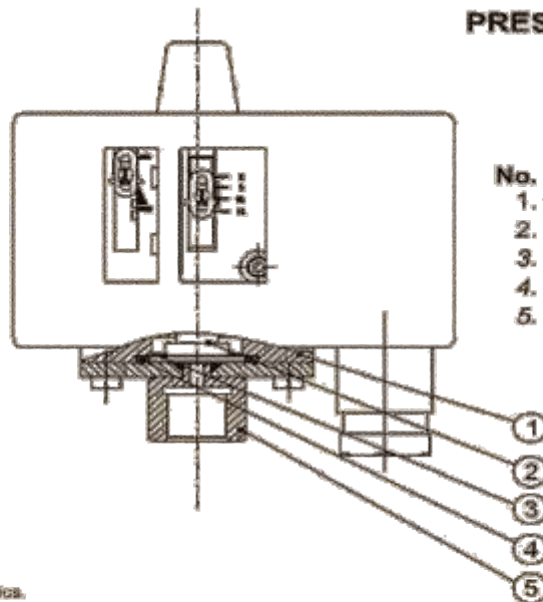


OEM HIGH RANGE PRESSURE SWITCHES

EZ / EX



PRESSURE CAPSULE DETAILS

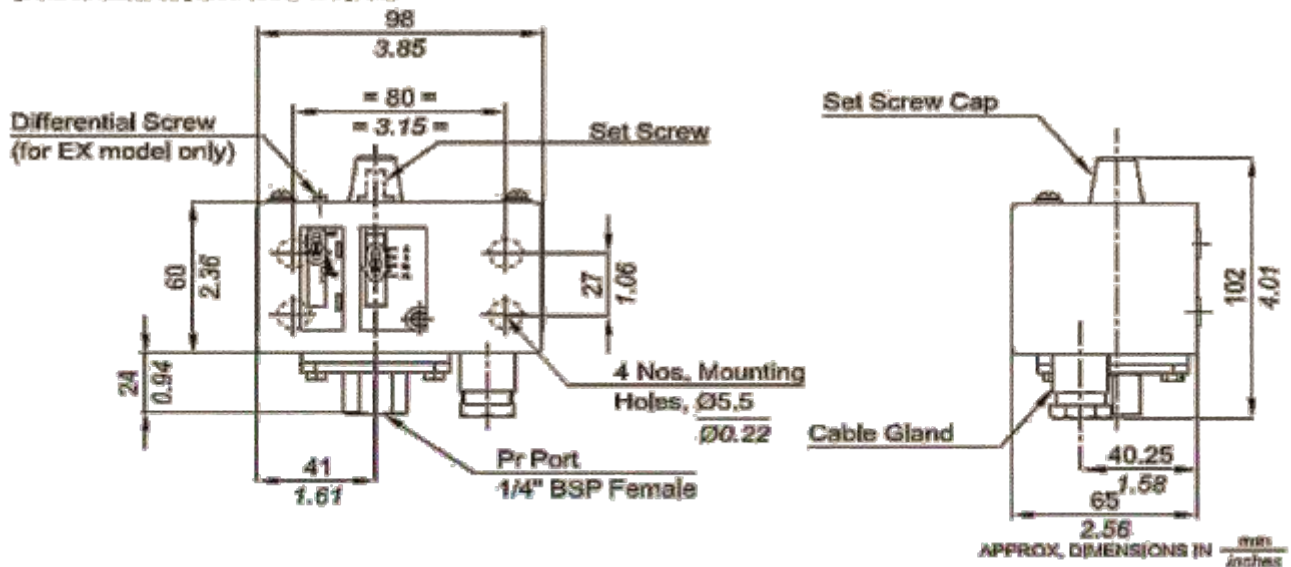


No. Description

1. Disc
2. Plunger
3. Diaphragm (Teflon)
4. O ring (Teflon)
5. Pressure Housing (SS 316)

Note: *welded parts are mentioned in Italics.*

INSTALLATION DRAWING



EZ/EX Series pressures switches are house in pressed steel powder coated enclosure & are recommended for panel mounting or indoor service. The repeat accuracy is better than +- 1.5% FSR. A 3/8" cable entry is provided for cables & a terminal strips suitable for a wired end is provided inside the enclosure. Pressure port is 1/4" BSPF standard.

Features :

- Compact
- SS316 & Teflon as standard wetted parts.
- Electrical rating : 5A, 250 V AC, 0.2A, 250 VDC (res.)
- Pressure port is 1/4" BSPF standard.

Range Selection Table:

Model	Range Bar (psi)	Approximate max. differential bar (psi)	Adjustable differential bar (psi)	Maximum working pressure bar (psi)
EZ4	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.90)	-	12 (174.05)
EZ7	0.5 - 0.7 (7.14 - 101.52)	0.40 (5.80)	-	12 (174.05)
EZ15	1.0 - 15.0 (14.50 - 271.71)	0.60 (8.70)	-	25 (362.6)
EZ30	5.0 - 25.0 (71.43 - 357.14)	1.00 (14.50)	-	35 (500.00)
EX7	0.5 - 7 (7.14 - 100.00)	-	0.8 - 6.0 (11.43 - 85.71)	12 (171.43)
EX15	1.0 - 15.0 (14.29 - 214.29)	-	1.5 - 10.0 (21.43 - 142.86)	25 (357.14)
EX30	5.0 - 25.0 (71.43 - 357.14)	-	2.5 - 10.0 (35.71 - 142.86)	35 (500.00)

- Minimum differential increases with set point (Graphs available on request)
- Rising pressure for EZ series ; falling pressure for EX series

HOW TO ORDER EZ / EX OEM HIGH RANGE PRESSURE SWITCHES

PLEASE SPECIFY MODEL NO. AS PER RANGE SELECTION TABLE ABOVE

Authorised Dealer



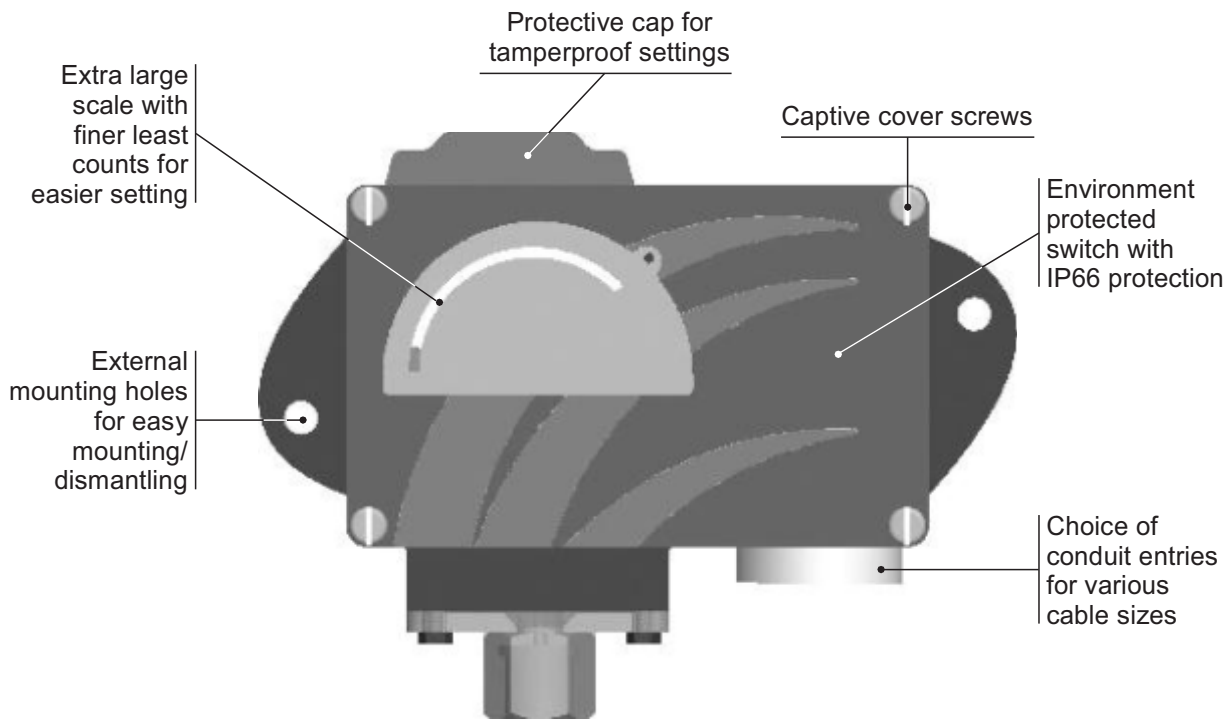
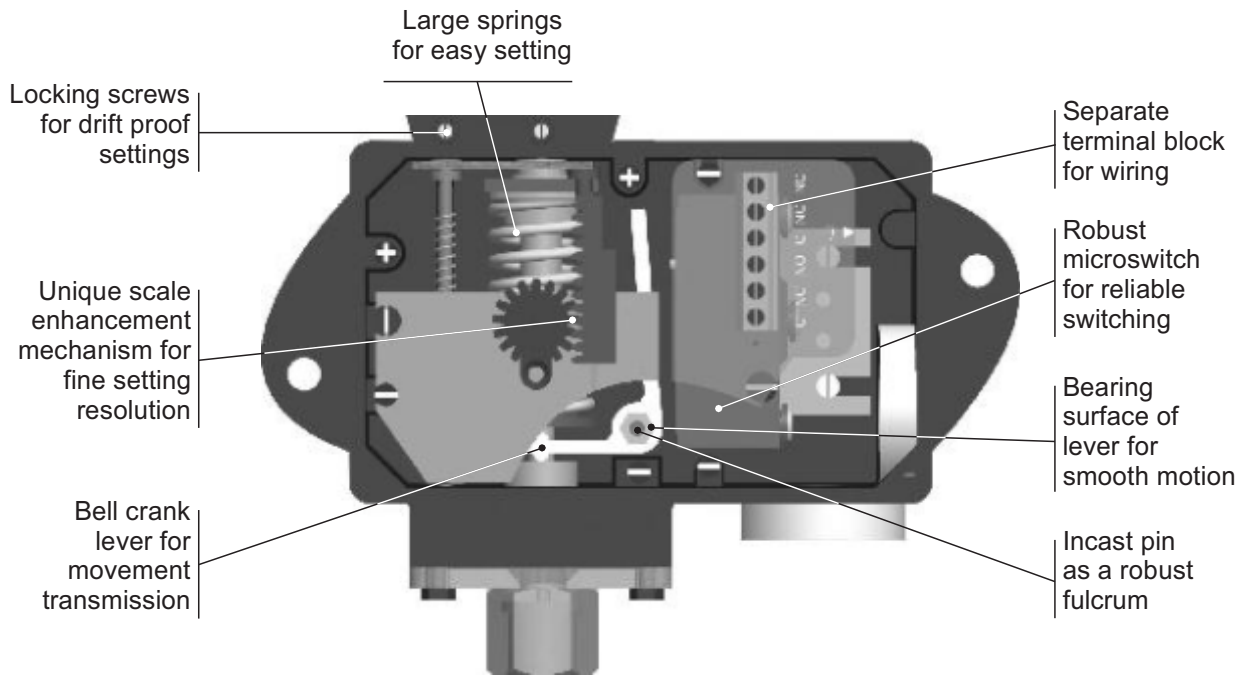
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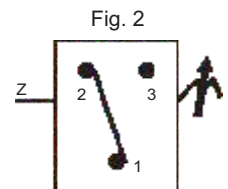
MD HIGH RANGE PRESSURE SWITCHES



Approximate Weight : 0.700 Kg.

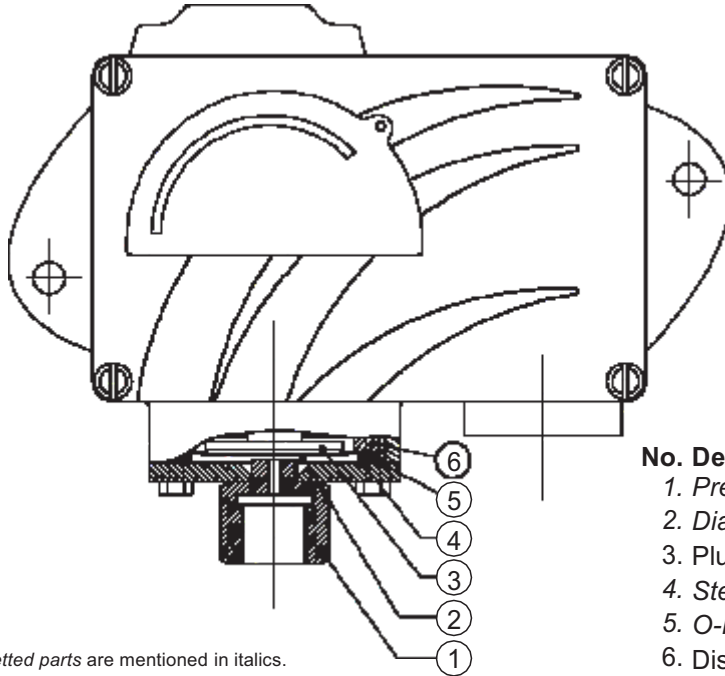
Some Applications : Used in non-hazardous areas.
For any type of corrosive and non-corrosive gases and fluids.

Electrical Connection :





PRESSURE CAPSULE DETAILS

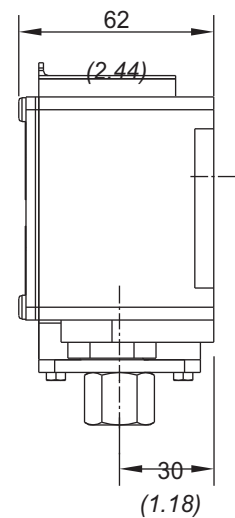
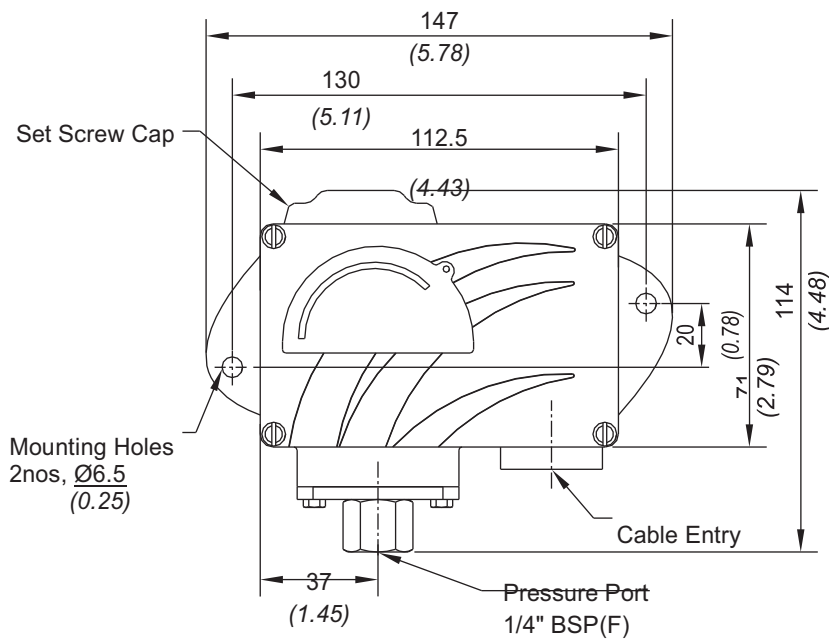


No. Description

1. Pressure Housing
2. Diaphragm (Teflon[®])
3. Plunger
4. Steel Ring (SS316)
5. O-Ring (Teflon[®])
6. Disc

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN mm inches

MD HIGH RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	†Differential bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
LP	0.067 - 0.213 (0.97 - 3.09)	0.02 (0.29)	5 (72.52)
LP5	0.1 - 0.5 (1.45 - 7.25)	0.08 (1.16)	5 (72.52)
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.45)	12 (174.05)
H02	0.1 - 1.5 (1.45 - 21.76)	0.12 (1.74)	12 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.20 (2.90)	12 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.90)	12 (174.05)
H07	0.5 - 7.0 (7.25 - 101.50)	0.40 (5.80)	12 (174.05)
H10	0.5 - 10.0 (7.25 - 145.38)	0.40 (5.80)	25 (362.6)
H15	1.0 - 15.0 (14.5 - 217.56)	0.80 (11.60)	25 (362.6)
H30	5.0 - 25.0 (72.52 - 362.6)	0.80 (11.60)	35 (507.63)

† Minimum differential increases with setpoint, values with neoprene diaphragm (Graphs available on request)

*** Note :**

Microswitches A2 through A9 can be supplied in some ranges and differentials will vary with microswitch used. Please contact sales office for details. Please check availability of adjustable differential with sales office.

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HOW TO ORDER INDUSTRIAL HIGH RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation <input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MD = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147	1 = 1/2" NPT threads 2 = 3/4" NPT threads 3 = M20 X 1.5 threads	PF1 = pressure switch, fixed differential without scale PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA1 = pressure switch, adjustable differential without scale *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available with A9 (in group 6) only	LP = (0.067 - 0.213) LP5 = (0.1 - 0.5) H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6) H07 = (0.5 - 7.0) H10 = (0.5 - 10.0) H15 = (1.0 - 15.0) H30 = (5.0 - 25.0)	A1 = General purpose microswitch rated at 15 A; 250 VAC *A2 = Hermetically sealed for corrosive environments *A3 = gold plated contacts for low voltage applications *A4 = DPDT configuration *A5 = for high DC ratings *A7 = 2SPDT switching elements *A9 = General purpose microswitch rated at 5 A; 250 VAC Please refer page no. 230 for more microswitch options * Please refer note under Range Selection Table	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F)	Diaphragm 0 = Neoprene 1 = Teflon 2 = SS 316L 3 = Hastelloy C 4 = Monel
<input type="checkbox"/>	MD	1	PF1	H01	A1	S1	0

eg. A high range weatherproof switch with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 0.1 bar to 1 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Please specify full model number to avoid ambiguity.

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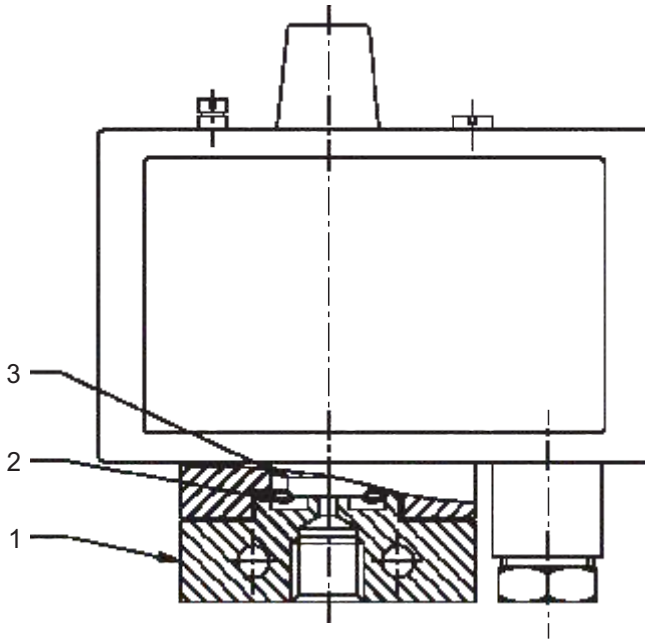
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MG / ME HIGH RANGE PRESSURE SWITCHES



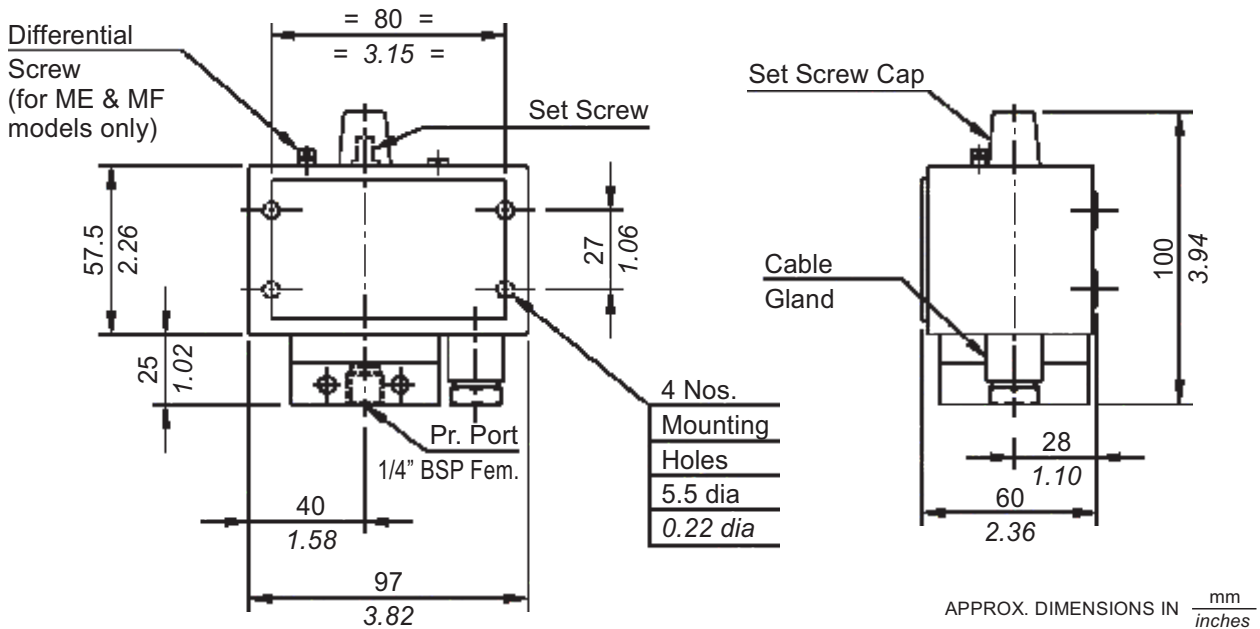
PRESSURE CAPSULE DETAILS



- No. Description**
1. Pressure Housing
 2. Diaphragm
 3. Plunger

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



HIGH RANGE PRESSURE SWITCHES MG / ME

General information:

MG / ME series pressure switches are housed in pressed steel powder coated enclosure and are recommended for panel mounting or indoor service. The repeat accuracy is better than $\pm 1.5\%$ FSR. A 3/8" cable entry is provided for cables and a terminal strip suitable for wired ends is provided inside the enclosure. Pressure port is 1/4" BSPF standard.

Features:

Compact
Choice of wetted parts to suit working media
Electrical rating : 5A, 250 VAC; 0.2 A, 250 VDC (res.)
Proof pressure available can be 4 times MWP (optional)
Pressure port: 1/4" BSPF

Some Applications : Used in textile industries, furnaces, compressors, etc.

Range Selection Table

Range Code	Range † bar (psi)	MG		ME	
		*Approximate Maximum Differential bar (psi)	*Adjustable Differential bar (psi)	Maximum Working Pressure bar (psi)	
LP	0.067 - 0.213 (0.96 - 3.09)	0.02 (0.30)	-	5 (72.52)	
LP5	0.1 - 0.5 (1.45 - 7.25)	0.10 (1.45)	-	5 (72.52)	
H01	0.1 - 1.0 (1.45 - 14.50)	0.08 (1.16)	0.12 - 1.0 (1.74 - 14.50)	12 (174.05)	
H02	0.1 - 1.5 (1.45 - 21.76)	0.10 (1.45)	0.3 - 1.0 (4.35 - 14.50)	12 (174.05)	
H03	0.2 - 2.6 (2.90 - 37.71)	0.20 (2.90)	0.3 - 1.5 (4.35 - 21.76)	12 (174.05)	
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.90)	0.3 - 1.5 (4.35 - 21.76)	12 (174.05)	
H07	0.5 - 7.0 (7.25 - 101.53)	0.40 (5.80)	1.0 - 6.0 (14.50 - 87.02)	12 (174.05)	
H10	0.5 - 10.0 (7.25 - 145.04)	0.60 (8.70)	1.5 - 8.0 (21.76 - 116.03)	25 (362.6)	
H15	1.0 - 15.0 (14.50 - 217.71)	0.60 (8.70)	1.8 - 10.0 (26.11 - 145.04)	25 (362.6)	
H30	5.0 - 25.0 (72.52 - 362.6)	2.50 (36.26)	2.5 - 10.0 (36.26 - 145.04)	35 (507.63)	

*Minimum differential increases with setpoint (Graphs available on request)

† rising pressure for MG series; falling pressure for ME series

? approx 50 mm Hg to 160 mm Hg. Scale calibrated in mm Hg for this range only.

How to order MG / ME series high range pressure switches.

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Range Scale	Pressure Housing	Diaphragm	Enclosure
MG - Fixed Differential Pressure Switch ME - Adj. Differential Pressure Switch	H - High range Pressure Switch	C - Calibrated	A - Aluminium B - Brass S - SS316	0 - Neoprene 1 - Teflon	0 - IP 40 as per IS 2147

eg. A fixed differential pressure switch, high pressure range from 0.1-1.0 bar in calibrated style with brass pressure housing & a teflon diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
MG	H01	C	B	1	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, calibrated switches with standard wetted parts will be supplied.

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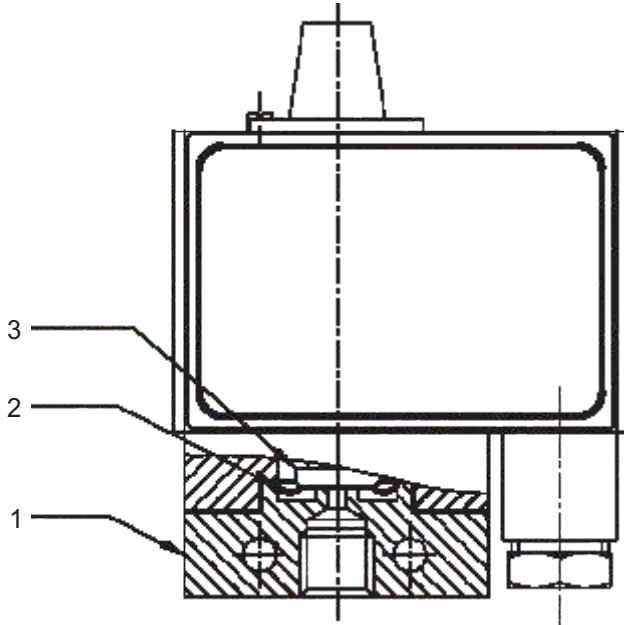
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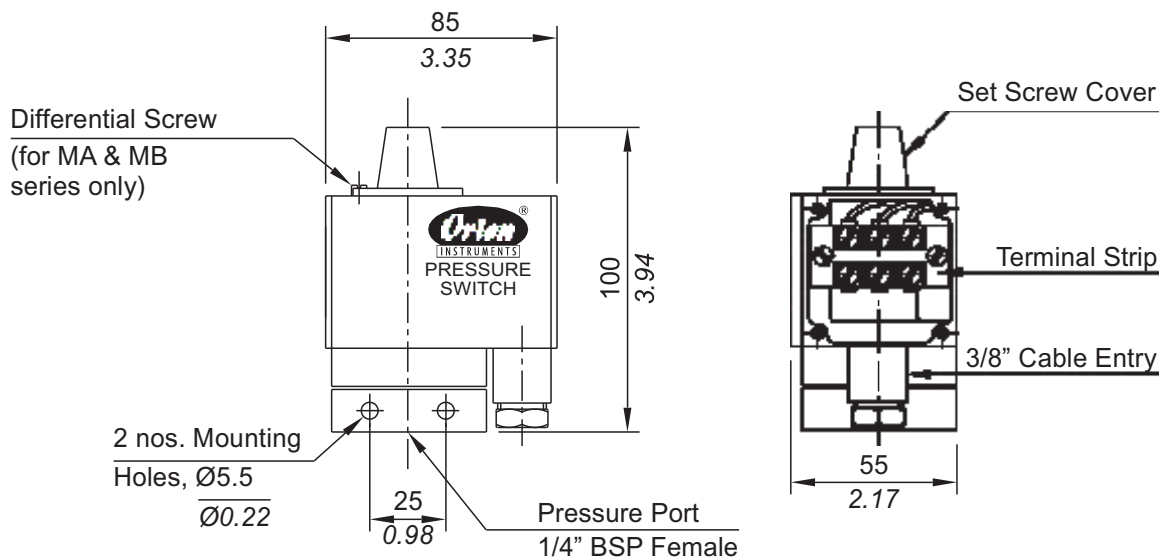
PRESSURE CAPSULE DETAILS



- No. Description**
1. *Pressure Housing*
 2. *Diaphragm*
 3. *Plunger*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

HIGH RANGE PRESSURE SWITCHES MN / MA

General information:

MN / MA series pressure switches are housed in pressure die cast aluminium powder coated enclosure and are recommended for panel mounting or outdoor service based on the type of enclosure opted for. The repeat accuracy is better than $\pm 1\%$ FSR. A 3/8" cable entry is provided for cables and a terminal strip suitable for wired ends is provided inside the enclosure. Pressure port is 1/4" BSPF standard.

Features:

- ! Compact
- ! Separate chamber for working parts
- ! Wide band adjustable differential in MA series
- ! Choice of wetted parts to suit working media
- ! Electrical rating : 5A, 250 VAC; 0.2 A, 250VDC (res.)
- ! Proof pressure available can be 4 times MWP (optional)
- ! Pressure port: 1/4" BSPF

Some Applications : Used in boilers, water treatment plants, fire fighting systems, compressors, etc.

Range Selection Table

Range Code	MN		MA	
	Range † bar (psi)	*Approximate Maximum Differential bar (psi)	* Adjustable Differential bar (psi)	Maximum Working Pressure bar (psi)
LP	0.067 - 0.213 Y#(0.96 - 3.09)	0.02 (0.30)	-	5 (72.52)
LP5	0.1 - 0.5 (1.45 - 7.25)	0.10 (1.45)	-	5 (72.52)
H01	0.1 - 1.0 (1.45 - 14.50)	0.1 (1.45)	0.15 - 1.0 (2.17 - 14.50)	12 (174.05)
H02	0.1 - 1.5 (1.45 - 21.76)	0.20 (2.90)	0.3 - 1.0 (4.35 - 14.50)	12 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.30 (4.35)	0.2 - 1.5 (2.90 - 21.76)	12 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.30 (4.35)	0.30 - 1.5 (4.35 - 21.76)	12 (174.05)
H07	0.5 - 7.0 (7.25 - 101.53)	0.40 (5.80)	0.80 - 6.0 (11.6 - 87.02)	12 (174.05)
H10	0.5 - 10.0 (7.25 - 145.04)	0.60 (8.70)	1.5 - 8.0 (21.75 - 116.03)	25 (362.6)
H15	1.0 - 15.0 (14.50 - 217.71)	0.60 (8.70)	1.5 - 10.0 (21.75 - 145.04)	25 (362.6)
H30	5.0 - 25.0 (72.52 - 362.6)	2.50 (36.26)	2.5 - 10.0 (36.26 - 145.04)	35 (507.63)

*Minimum differential increases with setpoint (Graphs available on request)

† rising pressure for MN series; falling pressure for MA series

? approx 50 mm Hg to 160 mm Hg. Scale calibrated in mm Hg for this range only

How to order MN / MA high range pressure switches.

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Range Scale	Pressure Housing	Diaphragm	Enclosure
MN - Fixed differential Switch MA - Adjustable Differential Switch	H - High Pressure ranges	U - Uncalibrated C - Calibrated	A - Aluminium B - Brass S - SS316	0 - Neoprene 1 - Teflon	0 - Standard (IP 54) 1 - IP65as per IS 2147
			for special wetted parts through chemical seals, please refer page 330,331 & 332 and specify in text accordingly.		

eg. A fixed differential switch, high pressure range from 0.1-1.0 bar in calibrated style with brass pressure housing & a teflon diaphragm & a standard enclosure shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
MN	H01	C	B	1	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, uncalibrated switches with standard wetted parts and a standard enclosure will be supplied.

Continuous efforts for product development may necessitate changes in these details without notice

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PRESSURE SWITCHES
PRESSURE DIFFERENCE SWITCHES
VACUUM SWITCHES
From 1.5 mbar to 600 bar

MT High Range Pressure Switches

CATALOGUE



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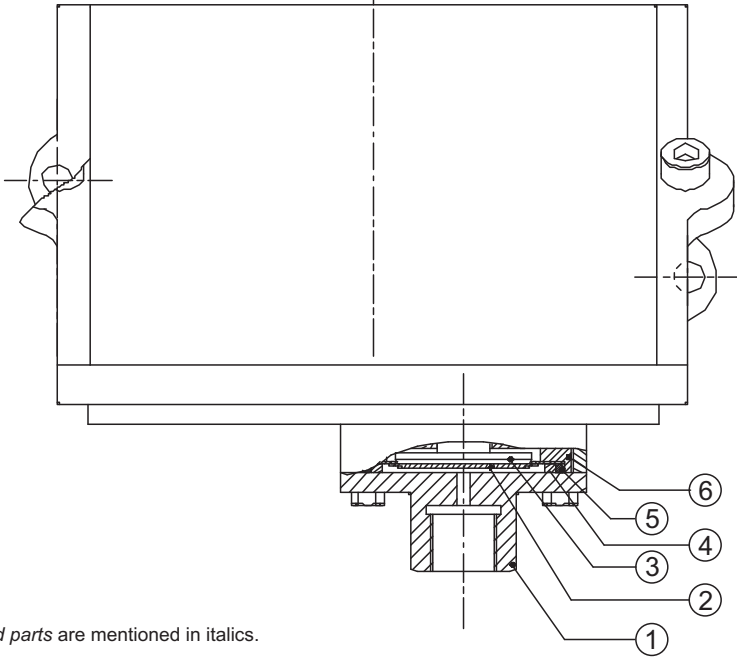
B-501/504, 5th floor, Raunak Arcade, Near THC Hospital, Gokhale Road, Naupada,
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MT HIGH PRESSURE RANGES



PRESSURE CAPSULE DETAILS



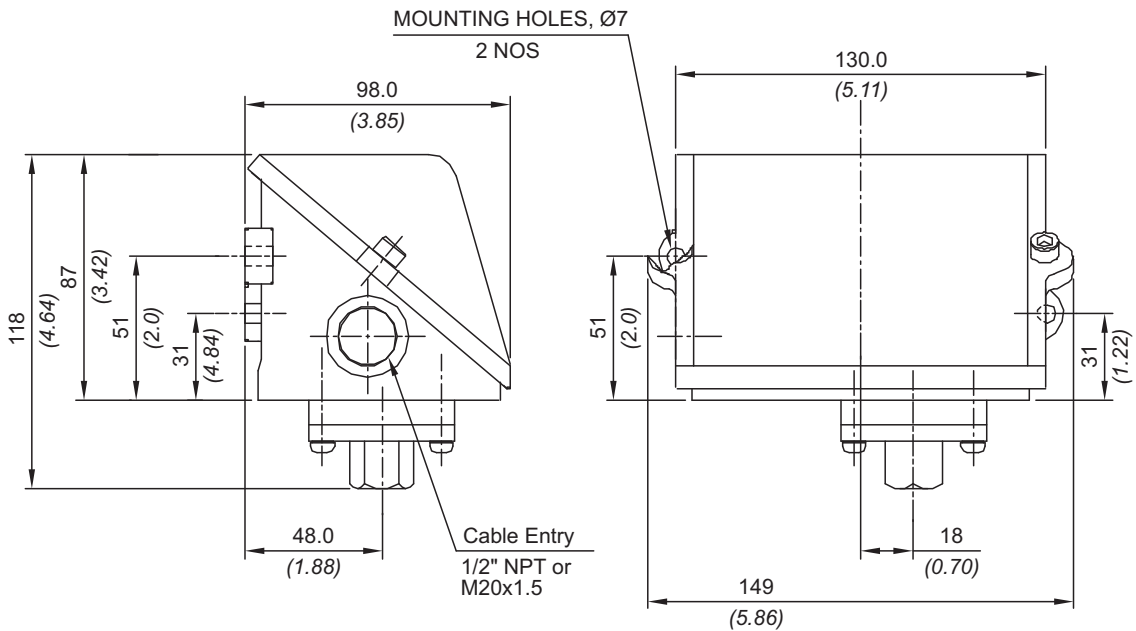
No. Description

1. Pressure housing (SS 316)
2. Diaphragm (Teflon)
3. Plunger
4. Steel ring (SS 316)
5. 'O' ring (Teflon)
6. Disc

Note : *wetted parts* are mentioned in italics.

*Pressure ports are brazed with flange

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

RANGE SELECTION TABLE

Range Code	Range bar (psi)	†Differential bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
LP	0.067 - 0.213 (0.97 - 3.09)	0.02 (0.29)	5 (72.52)
LP5	0.1 - 0.5 (1.45 - 7.25)	0.08 (1.16)	5 (72.52)
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.45)	12 (174.05)
H02	0.1 - 1.5 (1.45 - 21.76)	0.12 (1.74)	12 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.20 (2.90)	12 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.90)	12 (174.05)
H07	0.5 - 7.0 (7.25 - 101.50)	0.40 (5.80)	12 (174.05)
H10	0.5 - 10.0 (7.25 - 145.38)	0.40 (5.80)	25 (362.6)
H15	1.0 - 15.0 (14.5 - 217.56)	0.80 (11.60)	25 (362.6)
H30	5.0 - 25.0 (72.52 - 362.6)	0.80 (11.60)	35 (507.63)

*Minimum differential increases with setpoint, values with neoprene diaphragm (Graphs available on request)

* Differentials of microswitches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 microswitch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

HOW TO ORDER INDUSTRIAL HIGH RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MT = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS/IEC 60529	1 = Al. head 1/2" NPT threads 3 = Al. head M20 X 1.5 threads	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi PA2 = pressure switch, adjustable differential with scale in bar PA3 = pressure switch, adjustable differential with scale in psi	LP = (0.067 - 0.213) LP5 = (0.1 - 0.5) H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6) H07 = (0.5 - 7.0) H10 = (0.5 - 10.0) H15 = (1.0 - 15.0) H30 = (5.0 - 25.0)	A1 = General purpose microswitch rated at 15 A; 250 VAC A2 = Hermetically sealed for corrosive environments A3 = gold plated contacts for low voltage applications A4 = DPDT configuration A5 = for high DC ratings A7 = 2SPDT switching elements A9 = General purpose microswitch rated at 5 A; 250 VAC	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F)	0 = Neoprene 1 = Teflon 2 = SS 316L 3 = Hastelloy C 4 = Monel

eg. Industrial switch with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fix differential with scale having 0.1 bar to 1 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MT	1	PF2	H01	A1	S1	0

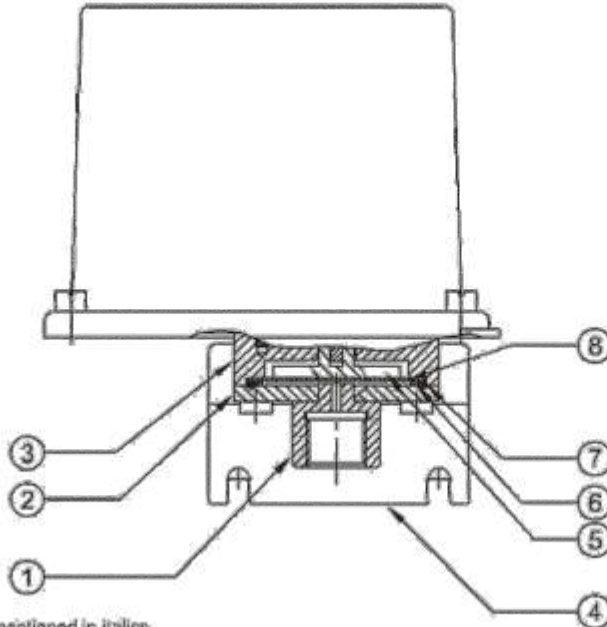
Please specify full model number to avoid ambiguity.



MZ & MX OEM HIGH RANGE PRESSURE SWITCHES



PRESSURE CAPSULE DETAILS

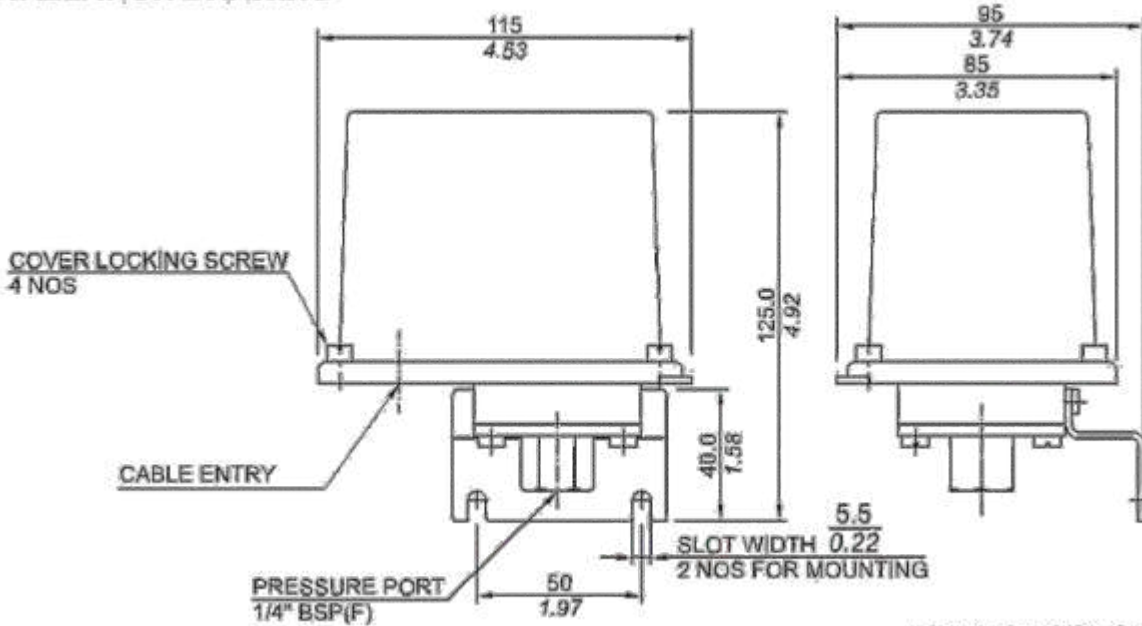


No. Description

- 1. *Pressure Port (SS316)*
- 2. *Housing Plate (SS316)*
- 3. *Disc*
- 4. *Mounting Bracket*
- 5. *Plunger*
- 6. *Ring (SS316)*
- 7. *O-Ring (Teflon[®])*
- 8. *Diaphragm (Teflon[®])*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



MZ & MX OEM HIGH RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Model Code	† Range bar (psi)	*Approximate Maximum Differential bar (psi)	* Adjustable Differential bar (psi)	Maximum Working Pressure bar (psi)
MZ-1	0.1 - 1.0 (1.45 - 14.50)	0.15 (2.18)	-	12 (174.05)
MZ-4	0.2 - 3.6 (2.90 - 52.21)	0.15 (2.18)	-	12 (174.05)
MZ-7	0.5 - 7.0 (7.25 - 101.52)	0.15 (2.18)	-	12 (174.05)
MZ-10	0.5 - 10.0 (7.25 - 145.04)	0.8 (11.60)	-	25 (362.6)
MZ-15	1.0 - 15.0 (14.50 - 217.71)	1.5 (21.76)		25 (362.6)
MZ-30	5.0 - 25.0 (72.52 - 362.6)	1.5 (21.76)		35 (507.63)
MX-7	0.5 - 7.0 (7.25 - 101.52)		0.8 - 2.0 (11.60 - 29.00)	12 (174.05)
MX-10	0.5 - 10.0 (7.25 - 145.04)		0.8 - 2.0 (11.60 - 29.00)	25 (362.6)
MX-15	1.0 - 15.0 (14.50 - 217.71)		1.0 - 2.0 (14.50 - 29.00)	25 (362.6)
MX-30	5.0 - 25.0 (72.52 - 362.6)		1.5 - 2.5 (21.76 - 36.26)	35 (507.63)

- Minimum differential increases with set point (Graphs available on request)
- †Rising pressure for MZ series
- †Falling pressure for MX series

SPECIFICATIONS

- Range : As per model code
- Electrical Rating : 15 Amp, 250 VAC, SPDT snap action microswitch
- Enclosure : IP 66 standard, transparent tough polycarbonate cover.
- Wetted Parts : SS 316 & Teflon
- Pressure Port : ¼" BSPF standard
- Cable gland : M20 X 1.5 standard (polyamide)
- Maximum Temperature : 80°C max. Please use impulse tubing for high temperatures.
Of working

- IP66 is approximately equivalent to NEMA 4X

HOW TO ORDER MZ / MX OEM HIGH RANGE PRESSURE SWITCHES

PLEASE SPECIFY MODEL NO. AS PER RANGE SELECTION TABLE ABOVE

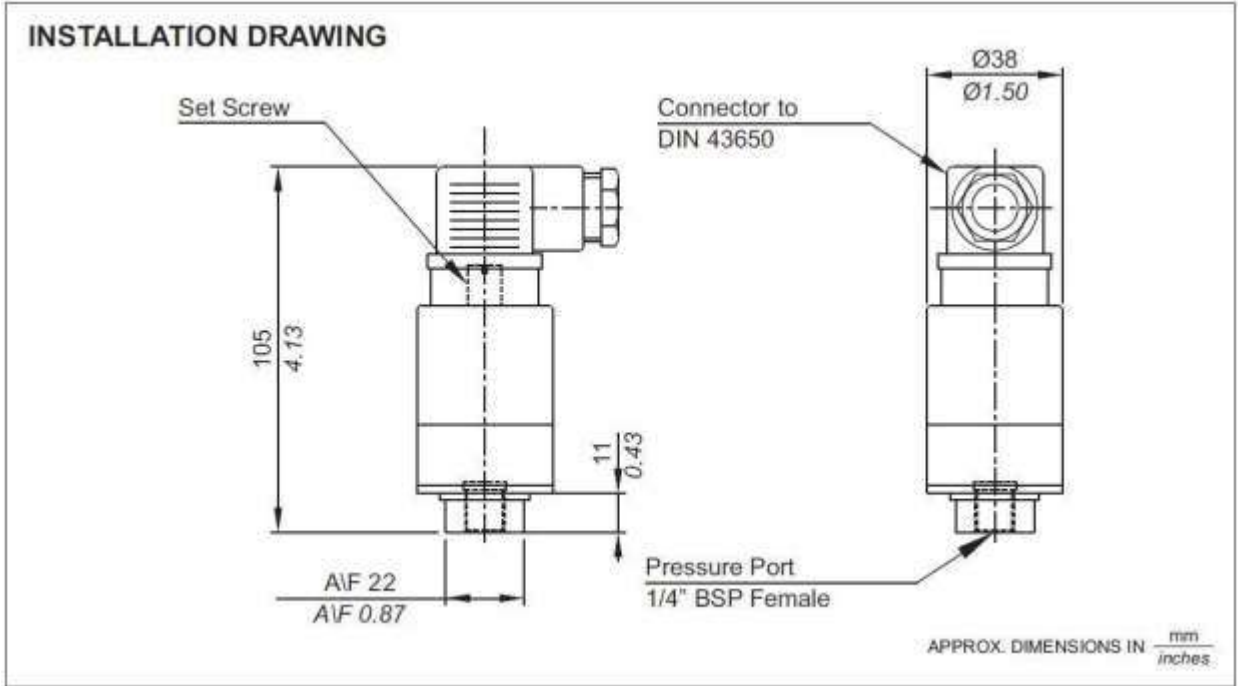
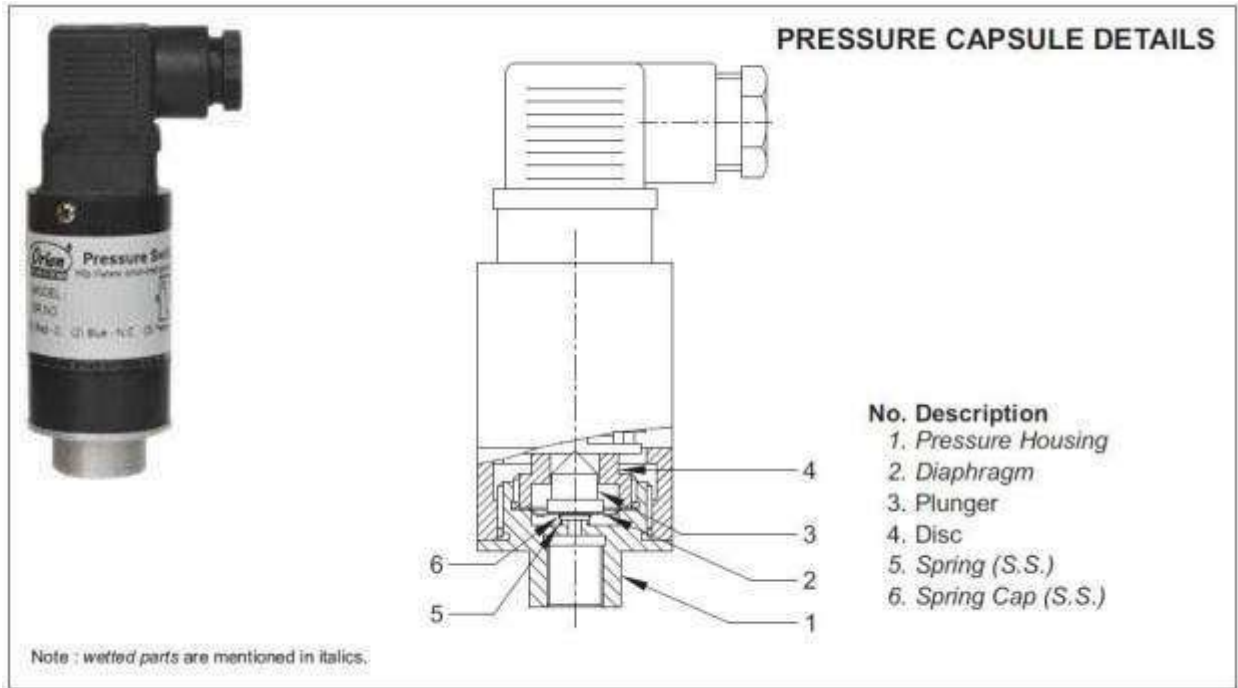
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General information:

SA series (a variant of SM series) pressure switches have a cast aluminum enclosure, intended for in house use. These are generally used where size is a constraint. The repeat accuracy is better than $\pm 2\%$ FSR. A Connector to DIN 43650 is provided for wiring. Pressure port is $\frac{1}{4}$ " BSPF standard.

Features:

- Compact
- Lightweight
- Electrical rating : 5A, 250 VAC; 0.2 A, 250 VDC (res.)
- Choice of wetted parts to suit working media
- Proof pressure available can be 4 times MWP (optional)
- Pressure Port : $\frac{1}{4}$ " BSPF

Range Selection

Range Code	Range (rising pressure) bar (psi)	* Approximate Maximum Differential (fixed) bar (psi)	Maximum Working Pressure bar (psi)
H01	0.2 - 1.0 (2.90 - 14.50)	0.2 (2.90)	12 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.3 (4.35)	12 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.3 (4.35)	12 (174.05)
H07	0.5 - 7.0 (7.25 - 101.53)	0.5 (7.25)	12 (174.05)
H10	0.5 - 10.0 (7.25 - 145.04)	1.0 (14.50)	25 (362.6)
H15	1.0 - 15.0 (14.50 - 217.76)	1.5 (21.76)	25 (362.6)
H30	5.0 - 25.0 (72.52 - 362.6)	2.50 (36.26)	35 (507.63)

*Minimum differential increases with set point (Graphs available on request)

How to order SA high range pressure switches

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Range Scale	Pressure Housing	Diaphragm	Enclosure
SA - Fixed Differential Pressure switch	H-High range 65 pressure Switch	U- Un calibrated	A -Aluminum B -Brass S -SS316	0 -Neoprene 1 -Teflon	0 -IP 65 as per IS 2147

eg. A single pressure switch, high pressure range from 0.2 - 2.6 bar in un calibrated style with brass pressure housing & a teflon diaphragm in a standard enclosure shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
SA	H03	U	B	1	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, switches with standard wetted parts will be supplied.

Continuous efforts for product development may necessitate changes in these details without notice

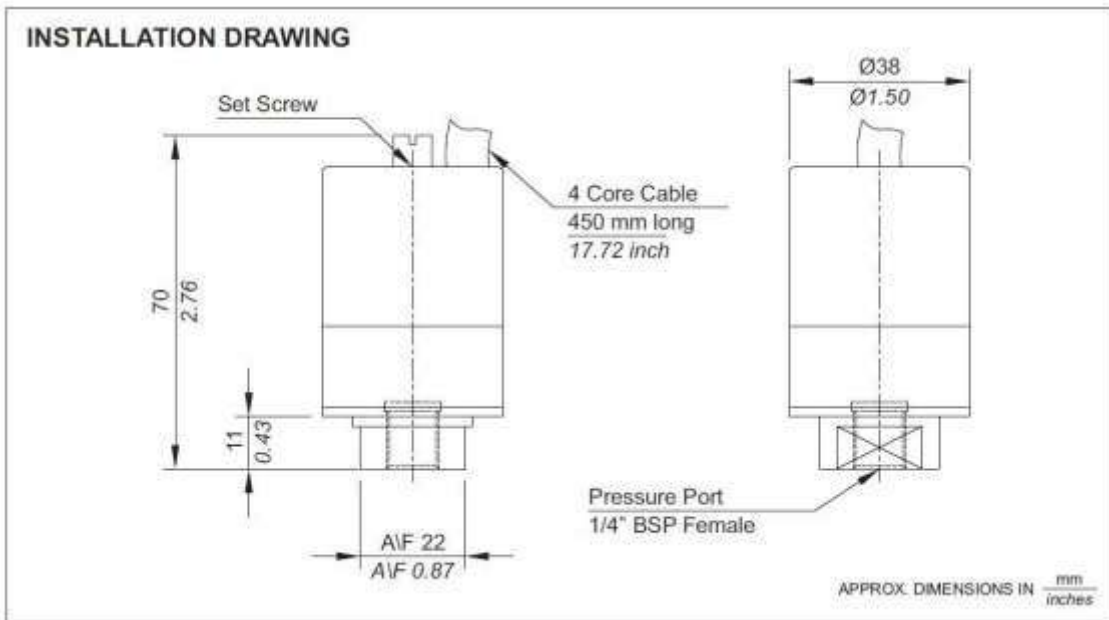
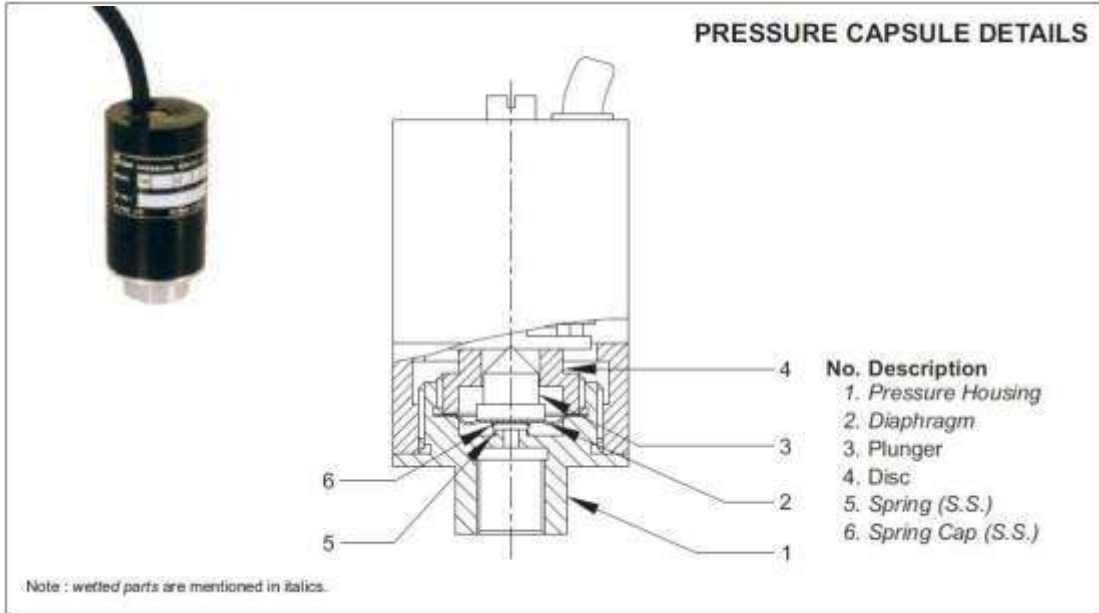
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General information:

SM series pressure switches have a cast aluminum enclosure, intended for in house use. These are generally used where size is a constraint. The repeat accuracy is better than $\pm 2\%$ FSR. A core cable 450 mm long with C/NO/NC contacts is provided for wiring. Pressure port is $\frac{1}{4}$ " BSPF standard.

Features:

- Compact
- Lightweight
- Electrical rating : 5A, 250 VAC; 0.2 A, 250 VDC (res.)
- Choice of wetted parts to suit working media
- Proof pressure available can be 4 times MWP (optional)
- Pressure Port : $\frac{1}{4}$ " BSPF

Range Selection

Range Code	Range (rising pressure) bar (psi)	* Approximate Maximum Differential (fixed) bar (psi)	Maximum Working Pressure bar (psi)
H01	0.2 - 1.0 (2.90 - 14.50)	0.2 (2.90)	12 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.3 (4.35)	12 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.3 (4.35)	12 (174.05)
H07	0.5 - 7.0 (7.25 - 101.53)	0.5 (7.25)	12 (174.05)
H10	0.5 - 10.0 (7.25 - 145.04)	1.0 (14.50)	25 (362.6)
H15	1.0 - 15.0 (14.50 - 217.76)	1.5 (21.76)	25 (362.6)
H30	5.0 - 25.0 (72.52 - 362.6)	2.50 (36.26)	35 (507.63)

*Minimum differential increases with set point (Graphs available on request)

How to order SM high range pressure switches

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Range Scale	Pressure Housing	Diaphragm	Enclosure
SA - Fixed Differential Pressure switch	H-High range 65 pressure Switch	U- Un calibrated	A -Aluminum B -Brass S -SS316	0 -Neoprene 1 -Teflon	0 -IP 65 as per IS 2147

eg. A single pressure switch, high pressure range from 0.1 – 1.0 bar in un calibrated style with brass pressure housing & a Teflon diaphragm in a standard enclosure shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
SM	H01	U	B	1	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, switches with standard wetted parts will be supplied.

Continuous efforts for product development may necessitate changes in these details without notice

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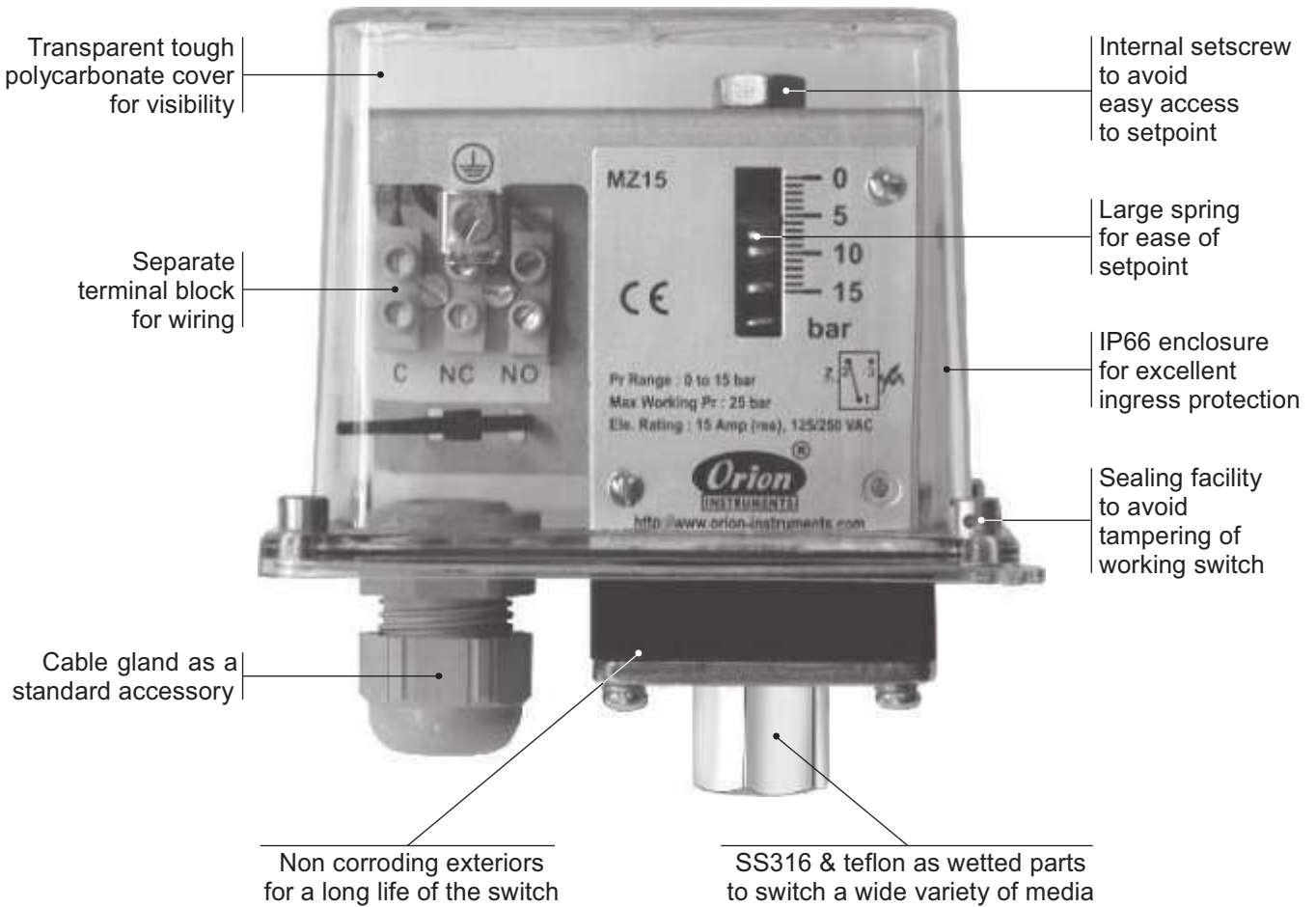
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MZ HIGH RANGE PRESSURE SWITCHES

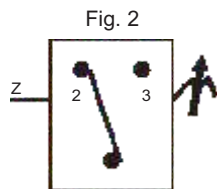


Approximate Weight : 0.550 Kg.

Some Applications :

Used in humid or slightly corrosive atmosphere like jet dyeing machines, etc.

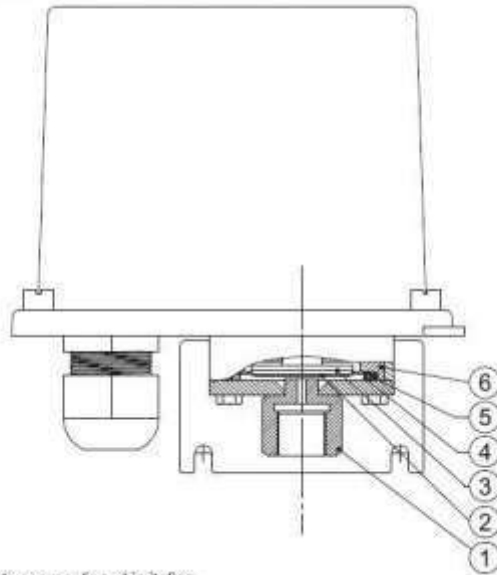
Electrical Connection :



MZ HIGH RANGE PRESSURE SWITCHES



PRESSURE CAPSULE DETAILS

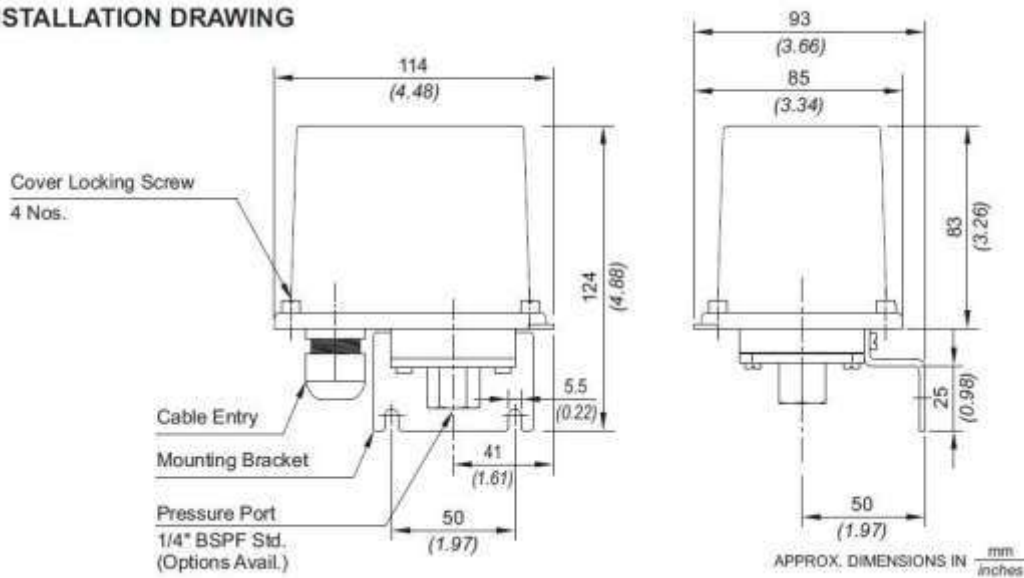


No. Description

1. Pressure Housing (SS316)
2. Diaphragm (Teflon[®])
3. Plunger
4. Steel Ring (SS316)
5. O-Ring (Teflon[®])
6. Disc

Note : wetted parts are mentioned in italics.

INSTALLATION DRAWING



MZ HIGH RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (<i>psi</i>)	Differential* bar (<i>psi</i>)	Maximum Working Pressure bar (<i>psi</i>)
		Approximate Maximum for "A8" microswitch	
LP [†]	0.067 - 0.213 (0.97 - 3.09)	0.05 (0.72)	5 (72.52)
LP5	0.1 - 0.5 (1.45 - 7.25)	0.10 (1.45)	5 (72.52)
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.45)	12 (174.05)
H02	0.1 - 1.5 (1.45 - 21.76)	0.20 (2.90)	12 (174.05)
H03	0.2 - 2.6 (2.90 - 37.71)	0.20 (2.90)	12 (174.05)
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.90)	12 (174.05)
H07	0.5 - 7.0 (7.25 - 101.50)	0.40 (5.80)	12 (174.05)
H10	0.5 - 10.0 (7.25 - 145.04)	0.60 (8.70)	25 (362.6)
H15	1.0 - 15.0 (14.50 - 217.56)	0.60 (8.70)	25 (362.6)
H30	5.0 - 25.0 (72.52 - 362.6)	0.80 (11.60)	35 (507.63)

*Minimum differential increases with setpoint (Graphs available on request), results for neoprene diaphragm.

†Range not available in SS316 L diaphragm.

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Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation <input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with tough transparent polycarbonate enclosure to IP66 as per IS2147	3 = M20 X 1.5 cable gland	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available only with option A9 in Group 6	LP = (0.067 - 0.213) LP5 = (0.1 - 0.5) H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6) H07 = (0.5 - 7.0) H10 = (0.5 - 10.0) H15 = (1.0 - 15.0) H30 = (5.0 - 25.0)	A8 = General purpose microswitch rated at 5 A; 250 VAC A7 = 2SPDT microswitches A9 = General purpose microswitch rated @ 5A, 250 VAC * Please refer note under Range Selection Table	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F) Please refer page no. 226 & 227 for more pressure port options	0 = Neoprene 1 = Teflon 2 = SS 316L 4 = Monel Diaphragm

eg. A process pressure switch with fixed differential having 0.1 bar to 1 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MZ	3	PF2	H01	A8	S1	0

Please specify full model number to avoid ambiguity.

Continuous efforts for product development may necessitate changes in these details without notice

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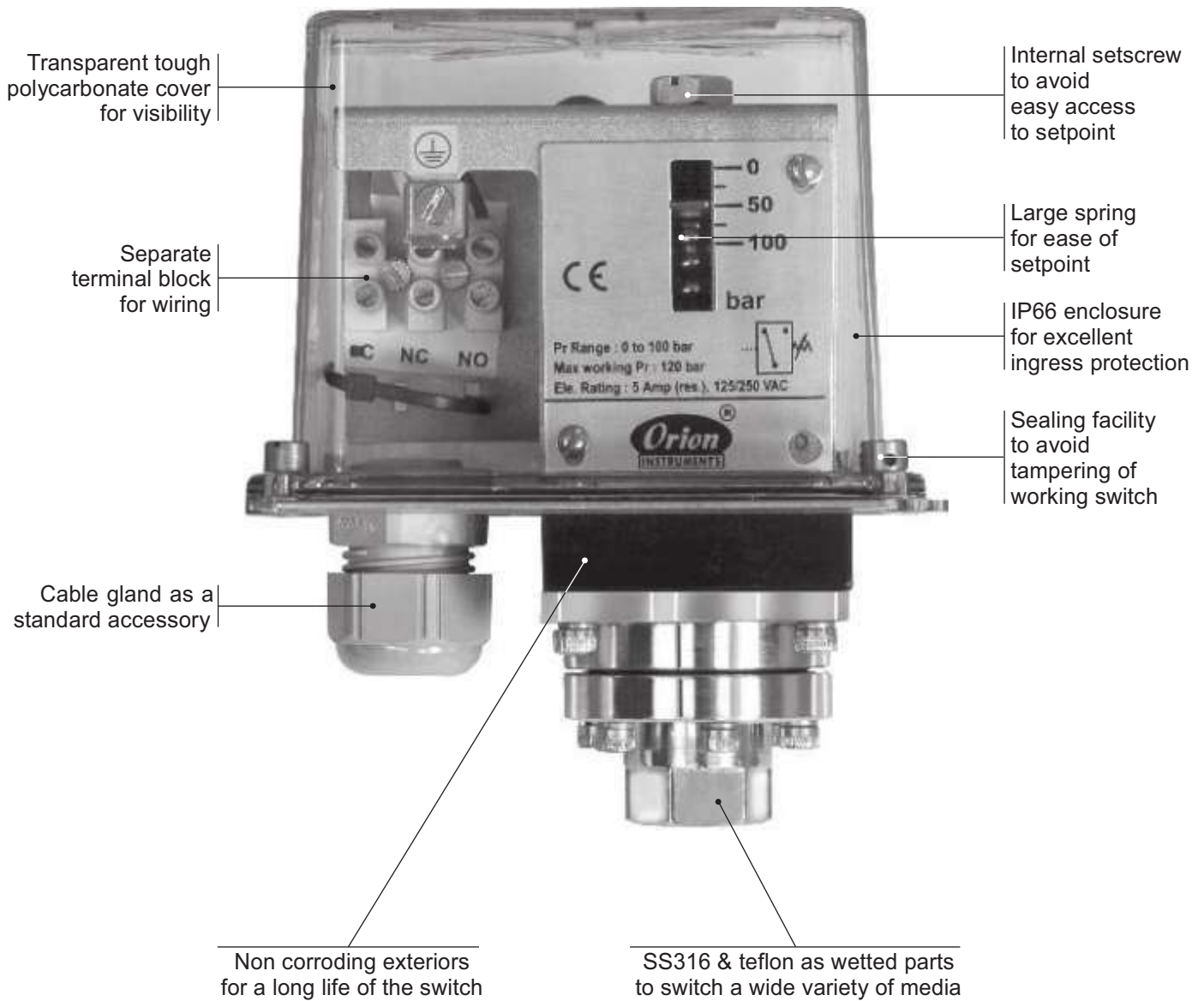
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MZ

HYDRAULIC DIAPHRAGM PRESSURE SWITCHES

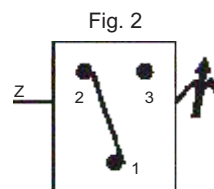


Approximate Weight : 0.680 Kg.

Some Applications :

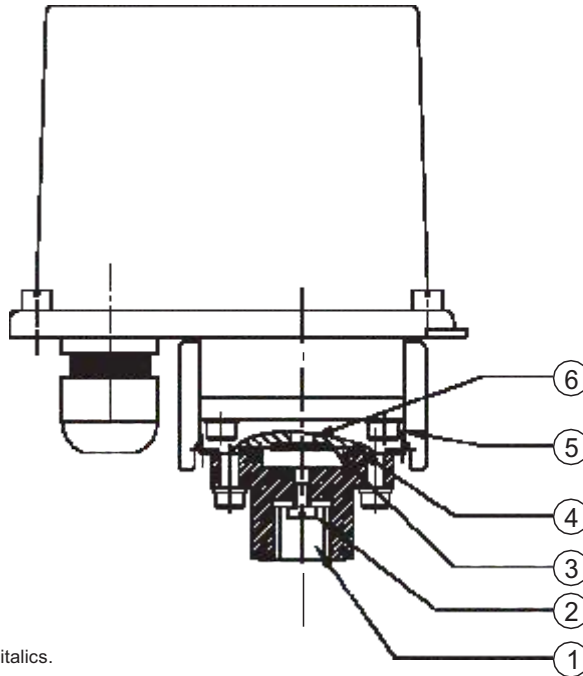
High Pressure applications requiring diaphragm as sensing element like water treatment plants, etc.

Electrical Connection :





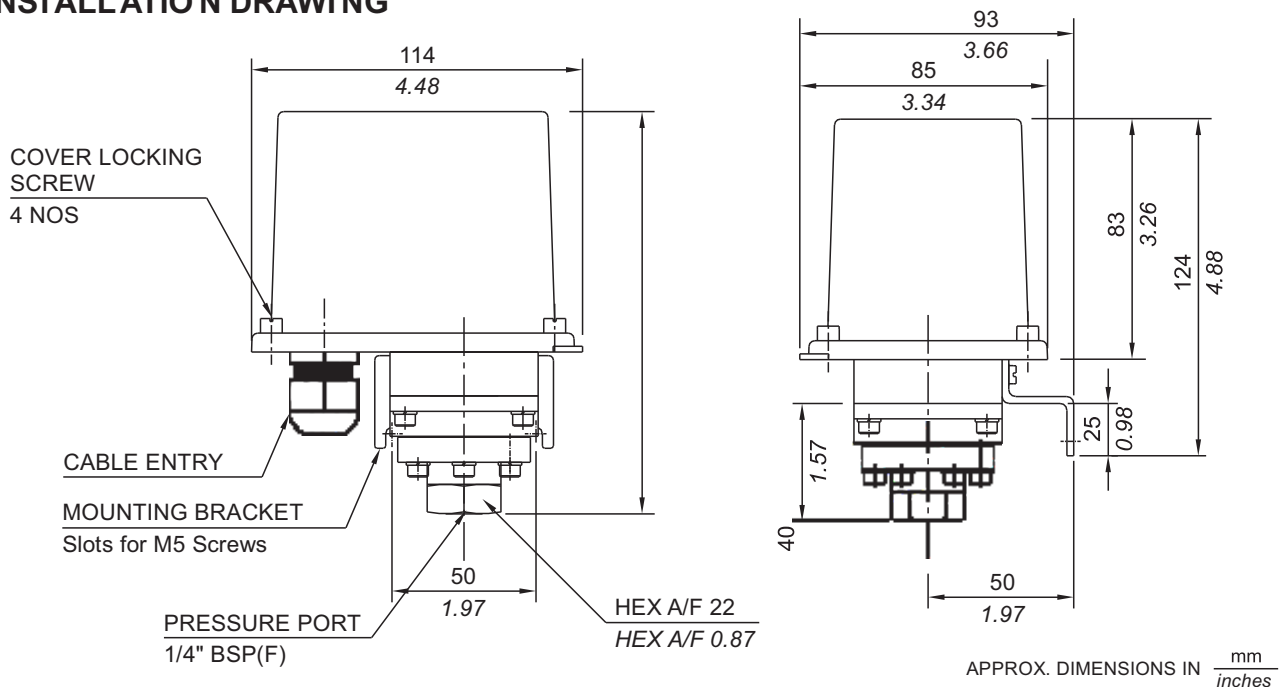
PRESSURE CAPSULE DETAILS



- No. Description**
1. *Pressure Housing*
 2. *Surge Reducer*
 3. *Diaphragm*
 4. *O-Ring*
 5. *Disc*
 6. *Plunger*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
H1T	0.5 - 10 (7.25 - 145.04)	0.5 (7.25)	150 (2175.51)
H2T	2 - 20 (29.00 - 290.07)	2 (29.00)	200 (2900.76)
H4T	5 - 40 (72.52 - 580.15)	5 (72.52)	200 (2900.76)
H1H	10 - 100 (146.04 - 1450.38)	12 (174.05)	200 (2900.76)
H2H	7 - 200 (101.52 - 2900.76)	24 (348.09)	400 (5801.52)
H4H	40 - 400 (580.15 - 5801.52)	70 (1015.27)	500 (7251.88)

* Minimum differential increases with setpoint (Graphs available on request)

* Differentials of microswitches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 microswitch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

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Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size and Material of Enclosure	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with tough transparent polycarbonate enclosure to IP66 as per IS2147	3 = M20 X 1.5 cable gland	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available only with option A9 in Group 6	H1T = (0.5 - 10) H2T = (2 - 20) H4T = (5 - 40) H1H = (10 - 100) H2H = (7 - 200) H4H = (40 - 400)	A8 = General purpose microswitch rated at 5 A; 250 VAC A7 = 2SPDT microswitches A9 = General purpose microswitch rated @ 5A, 250 VAC	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F) 2 = SS316 4 = Monel	

eg. A process pressure switch with fixed differential having 5 bar to 40 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MZ	3	PF2	040	A8	S1	0

Please specify full model number to avoid ambiguity.

Continuous efforts for product development may necessitate changes in these details without notice

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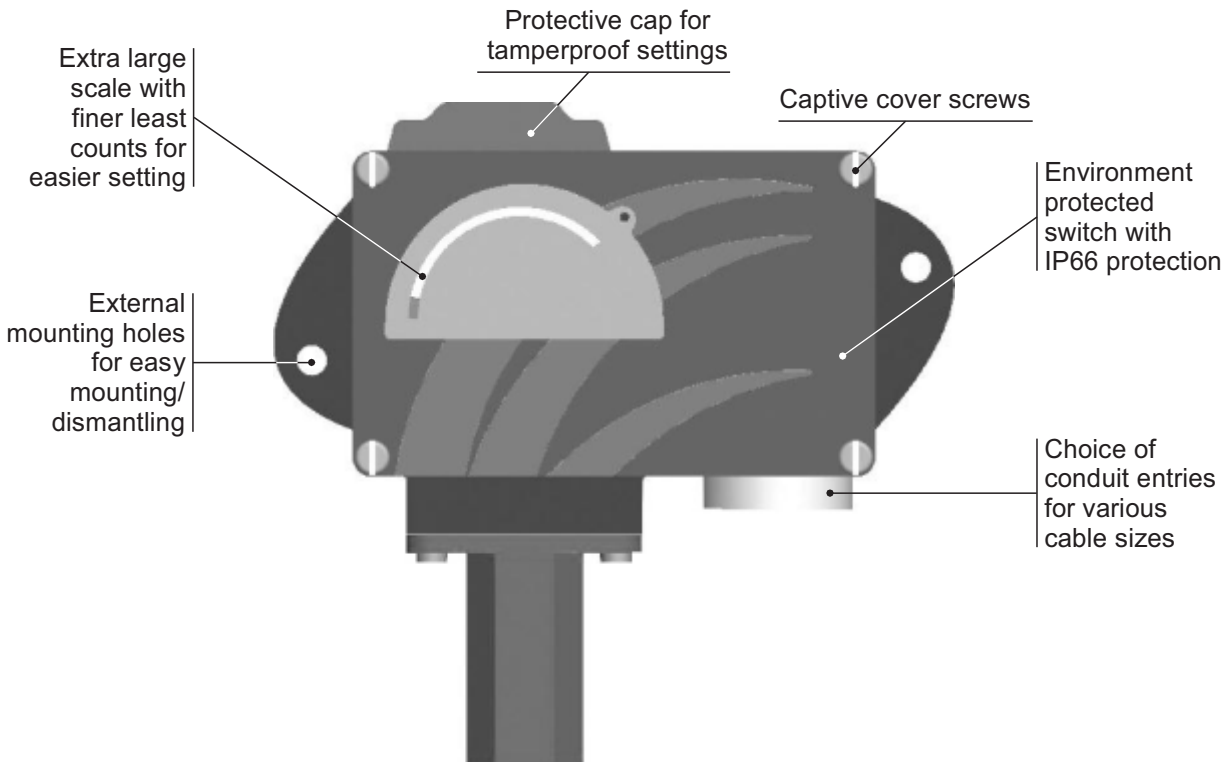
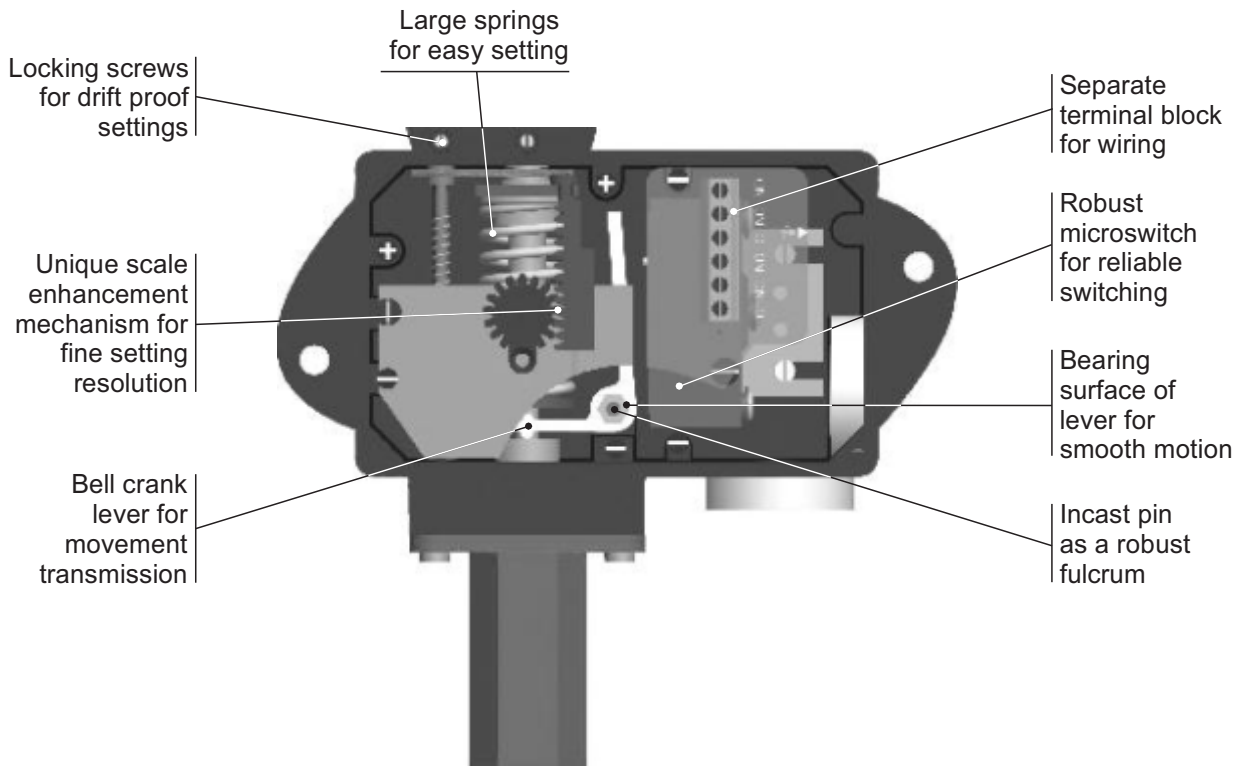
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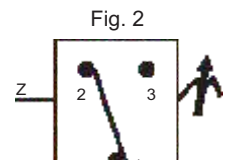
MD HYDRAULIC RANGE PRESSURE SWITCHES



Approximate Weight : 0.850 Kg.

Some Applications : Used where oil is a working medium.

Electrical Connection :

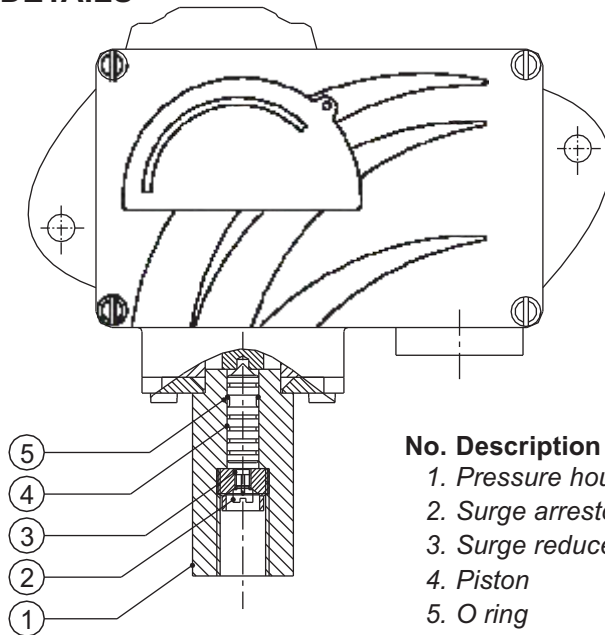


HYDRAULIC RANGE PRESSURE SWITCHES

MD



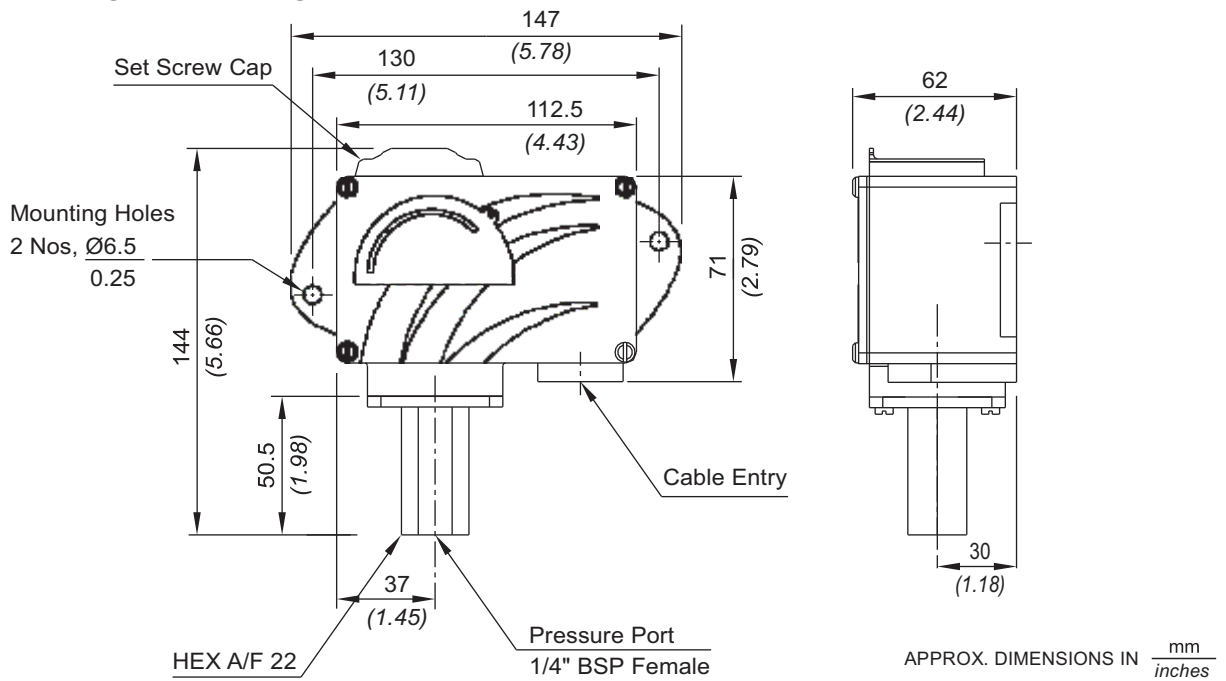
PRESSURE CAPSULE DETAILS



- No. Description**
1. Pressure housing
 2. Surge arrester
 3. Surge reducer
 4. Piston
 5. O ring

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



MD HYDRAULIC RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
040	5 - 40 (72.52 - 580.15)	5 (72.52)	80 (1160.30)
100	10 - 100 (145.04 - 1450.38)	12 (174.05)	120 (1740.45)
200	7 - 200 (101.53 - 2900.76)	24 (348.09)	200 (2900.76)
350	35 - 350 (507.63 - 5076.33)	30 (435.11)	500 (7251.9)
400	100 - 400 (1450.38 - 5801.52)	30 (435.11)	400 (5801.52)

*Minimum differential increases with setpoint (Graphs available on request)

*** Note :**

Microswitches A2 through A7 can be supplied in some ranges and differentials will vary with microswitch used. Please contact sales office for details. Please check availability of adjustable differential with sales office.

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HOW TO ORDER INDUSTRIAL HYDRAULIC RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Piston
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MD = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147	1 = 1/2" NPT threads 2 = 3/4" NPT threads 3 = M20 X 1.5 threads	PF1 = pressure switch, fixed differential without scale PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA1 = pressure switch, adjustable differential without scale *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available with A9 (in group 6) only	040 = (5 - 40) 100 = (10 - 100) 200 = (7 - 200) 350 = (35 - 350) 400 = (100 - 400)	A1 = General purpose microswitch rated at 15 A; 250 VAC *A2 = Hermetically sealed for corrosive environments *A3 = gold plated contacts for low voltage applications *A4 = DPDT configuration *A5 = for high DC ratings *A7 = 2SPDT switching elements *A9 = General purpose microswitch rated at 5 A; 250 VAC Please refer page no. 230 for more microswitch options * Please refer note under Range Selection Table	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F)	2 = SS

eg. A hydraulic weatherproof switch, with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 5 bar to 40 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MD	1	PF1	040	A1	S1	-

Please specify full model number to avoid ambiguity.

Continuous efforts for product development may necessitate changes in these details without notice

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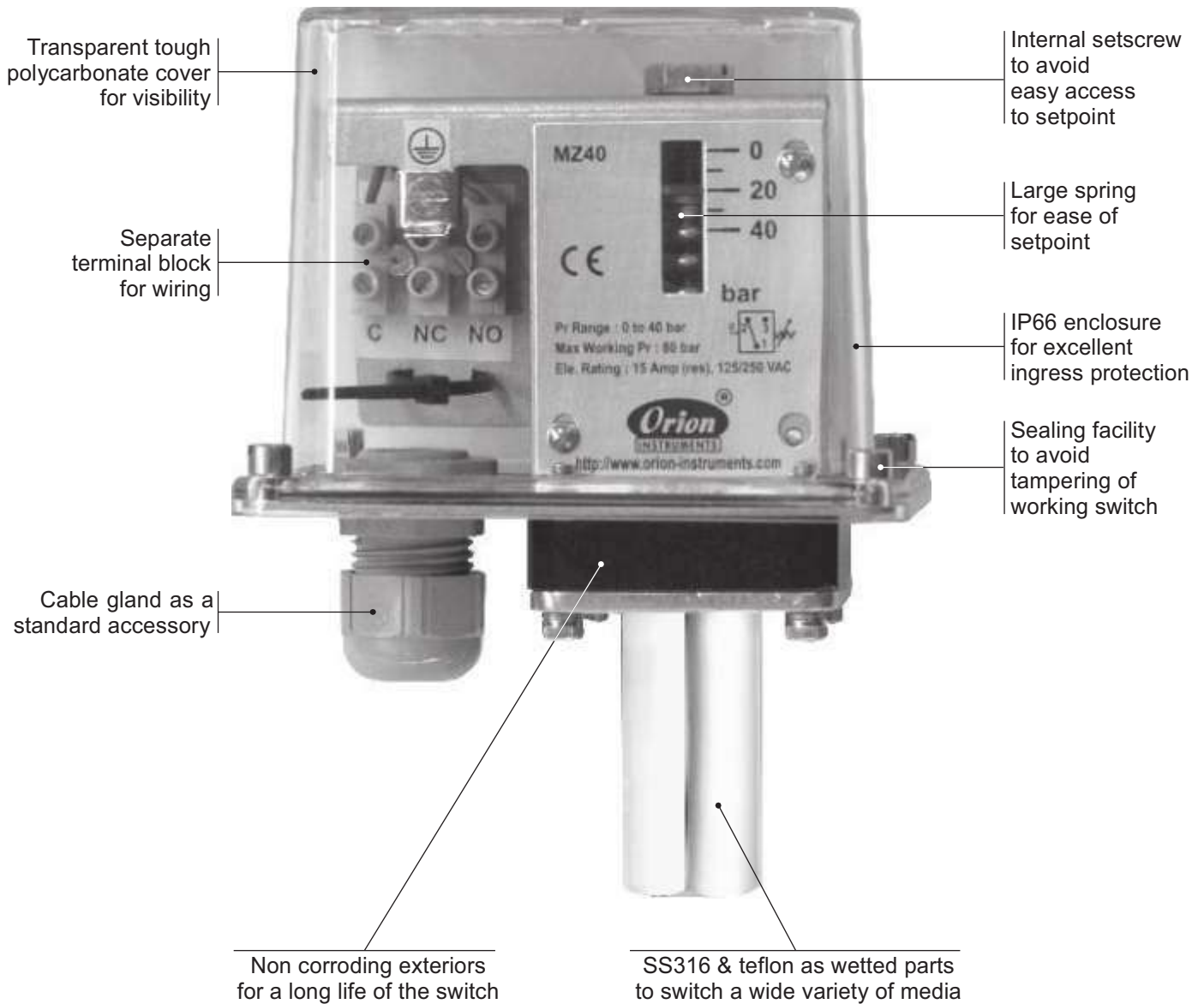
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MZ

HYDRAULIC RANGE PRESSURE SWITCHES



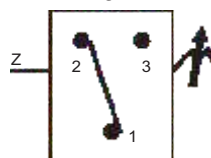
Approximate Weight : 0.680 Kg.

Some Applications :

Used where pressure surges and fluctuations may be present like oil hydraulic systems, etc.

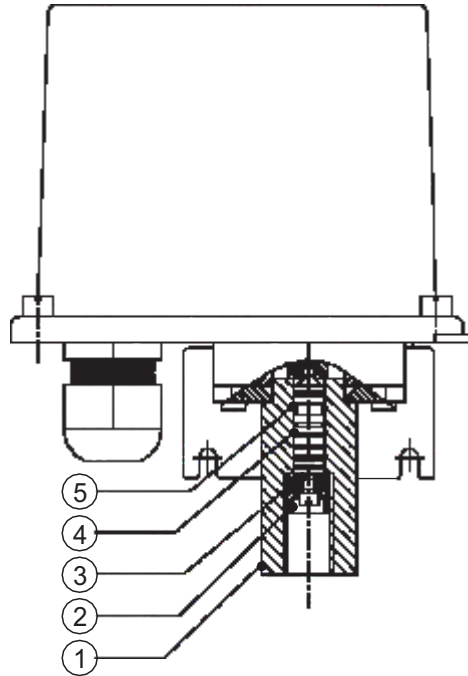
Electrical Connection :

Fig. 2





PRESSURE CAPSULE DETAILS

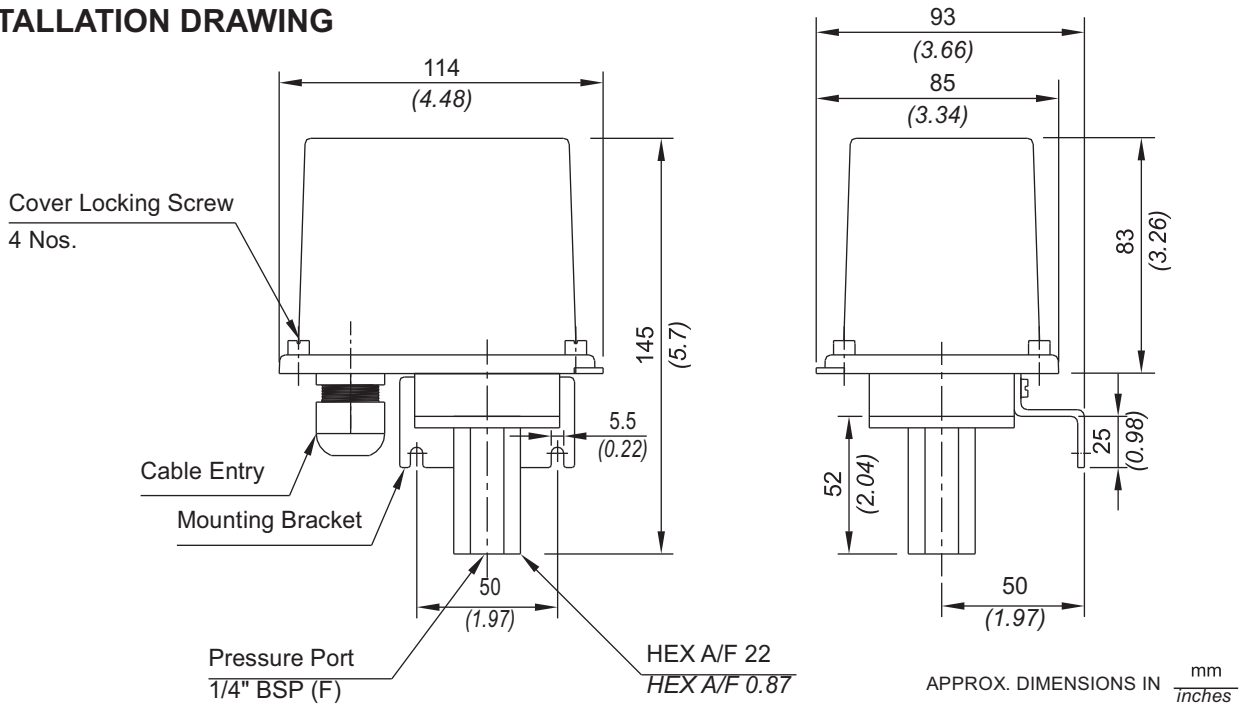


No. Description

1. *Pressure housing (SS)*
2. *Surge Arrestor (SS)*
3. *Surge Reducer (SS)*
4. *Piston (SS)*
5. *O-Ring (Viton®)*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING





HYDRAULIC RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (<i>psi</i>)	Differential* bar (<i>psi</i>)	Maximum Working Pressure bar (<i>psi</i>)
		Approximate Maximum for "A8" microswitch	
040	5 - 40 (72.52 - 580.15)	5 (72.52)	80 (1160.31)
100	10 - 100 (145.04 - 1450.38)	12 (174.05)	120 (1740.45)
200	7 - 200 (101.63 - 2900.75)	24 (348.09)	200 (2900.75)
350	35 - 350 (101.53 - 2900.75)	24 (348.09)	500 (7251.89)
400	100 - 400 (1450.38 - 5801.51)	30 (435.11)	400 (5801.59)

*Minimum differential increases with setpoint (Graphs available on request)

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size and Material of Enclosure	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Piston
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with tough transparent polycarbonate enclosure to IP66 as per IS2147	3 = M20 X 1.5 cable gland	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi <small>*Available only with option A9 in Group 6</small>	040 = (5 - 40) 100 = (10 - 100) 200 = (7 - 200) 350 = (35 - 350) 400 = (100 - 400)	A8 = General purpose microswitch rated at 5 A; 250 VAC A7 = 2SPDT microswitches A9 = General purpose microswitch rated @ 5A, 250 VAC	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F)	2 = SS
					* Please refer note under Range Selection Table		
					Please refer page no. 226 & 227 for more pressure port options		

eg. A process pressure switch with fixed differential having 5 bar to 40 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MZ	3	PF2	040	A8	S1	0

Please specify full model number to avoid ambiguity.

Continuous efforts for product development may necessitate changes in these details without notice

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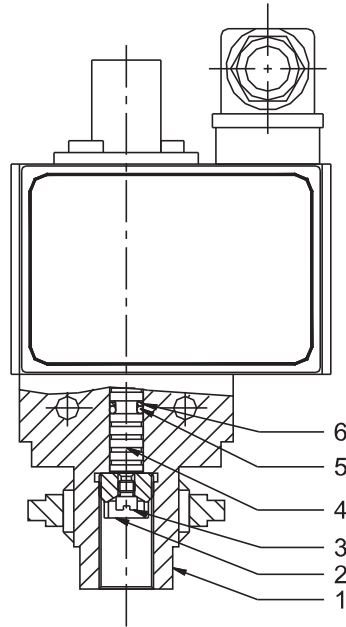
Gtalk: nkinstruments2006



DN / DA HYDRAULIC PRESSURE SWITCHES



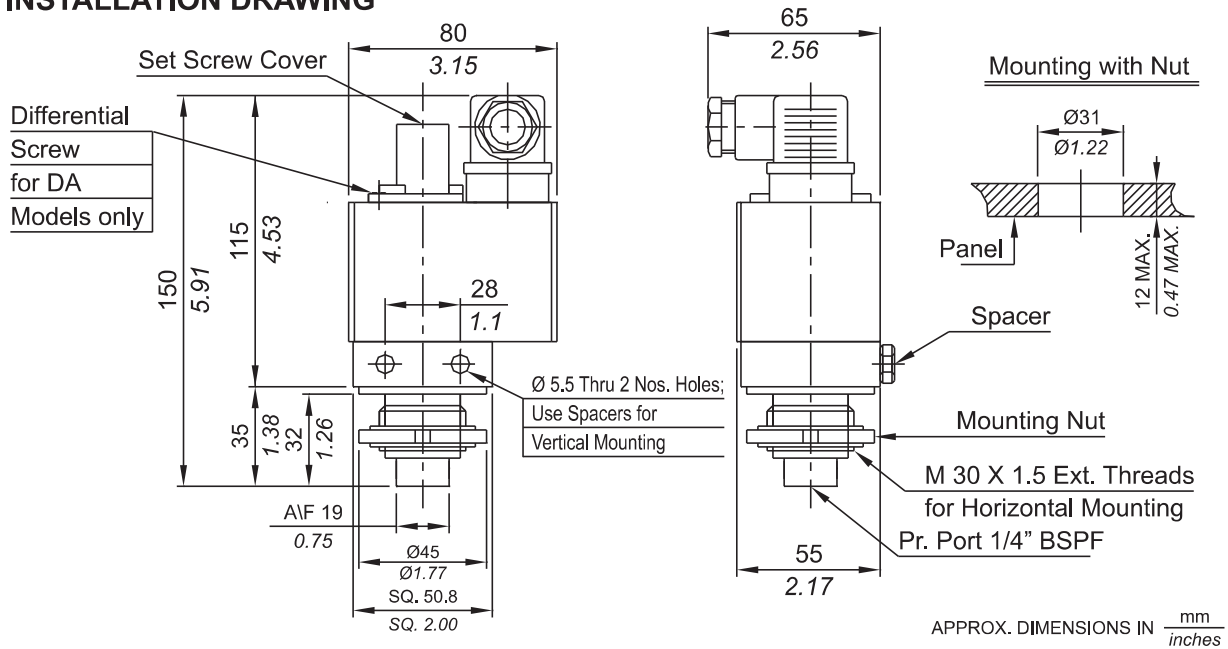
PRESSURE CAPSULE DETAILS



- No. Description**
1. Pressure Housing
 2. Surge arrestor
 3. Surge reducer
 4. Piston
 5. O ring
 6. Backup ring

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



HYDRAULIC PRESSURE SWITCHES DN / DA

General information:

DN / DA series pressure switches are housed in pressure die cast aluminium powder coated enclosure and are recommended for panel / line mounting or outdoor service. The repeat accuracy is better than $\pm 1\%$ FSR. A connector to DIN 43650 is provided for electrical wiring. Pressure port is $\frac{1}{4}$ " BSPF standard.

Features:

- Compact
- Separate chamber for working parts
- Choice of wetted parts to suit working media
- Wide band adjustable differential in DA series.
- Electrical rating : 5A,250VAC;0.2A,250VDC(res.)
- Pressure port : $\frac{1}{4}$ " BSPF

Some Applications : Used for hydraulic applications like loading and unloading in CNC, VMC machining centres, chuck clamping, etc.

Range Selection Table

Range Code	Range † bar (psi)	DN		DA	
		*Approximate Maximum Differential bar (psi)	*Adjustable Differential bar (psi)	Maximum Working Pressure bar (psi)	
040	3 - 40 (43.51 - 580.15)	5 (72.52)	5 - 10 (72.52 - 145.04)	80 (1160.30)	
100	10 - 100 (145.04 - 1450.38)	12 (174.05)	10 - 20 (145.04 - 290.08)	120 (1740.45)	
200	7 - 200 (101.52 - 2900.76)	24 (348.09)	18 - 30 (261.06 - 435.11)	200 (2900.76)	
400	100 - 400 (1450.38 - 5801.51)	40 (580.15)	30 - 40 (435.11 - 580.15)	400 (5801.51)	

* minimum differential rises with setpoint (Graphs available on request)

† rising pressure for DN series; falling pressure for DA series.

Wetted Parts Table for DN / DA Series.

	Standard	Optional	Special
Piston	EN8	S.S.	for special wetted parts through chemical seals, please refer page 330,331 & 332 and specify in text accordingly.
*Backup ring	Teflon	Teflon	
O ring	Viton	Viton	
Pressure housing	Aluminium	Brass	
Surge suppressor	EN8	Brass	
Surge reducer	Brass	Brass	

* Backup ring is not used in all pressure ranges. Please contact sales office for details.

How to order DN / DA series hydraulic pressure switches.

Group 1	Group 2	Group 3	Group 4	Group 5
Model	Range	Range Scale	Wetted Parts	-
DN - Fixed diff. Hydraulic Pressure switch DA - Adjustable diff. Hydraulic Pressure Switch	Please select as per range code table	U - uncalibrated C - calibrated	S - for Standard Wetted parts. B - for optional wetted parts mentioned in table above. X - Specify wetted parts in text as per wetted parts table above.	Reserved for non Standard modifications. Code will be given by company

eg. A fixed differential hydraulic pressure switch, pressure range from 5 to 40 bar, in uncalibrated style and standard wetted parts shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5
DN	040	U	S	-

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, pressure switches with standard wetted parts will be supplied.

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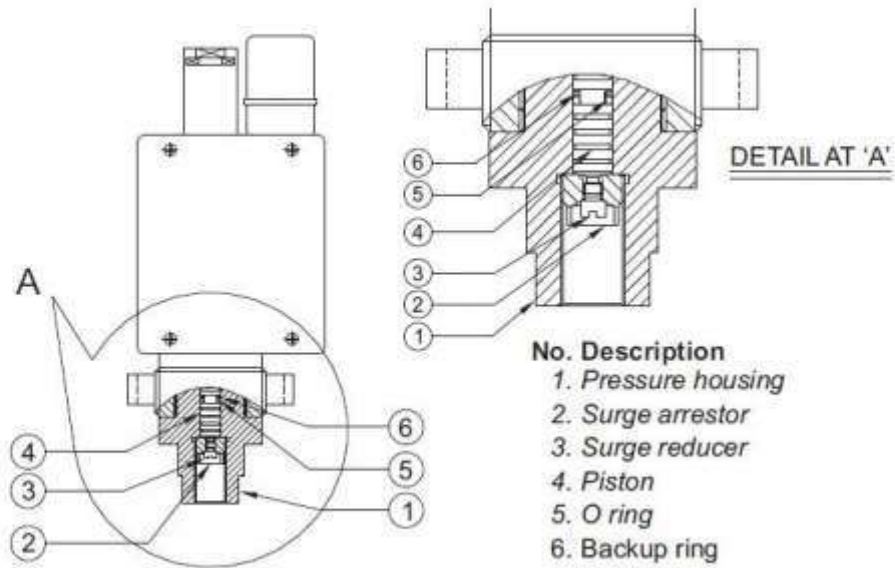
	<h3>NK Instruments Pvt. Ltd.</h3>		
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Bulletin No. KA121024

DT HYDRAULIC PRESSURE SWITCHES

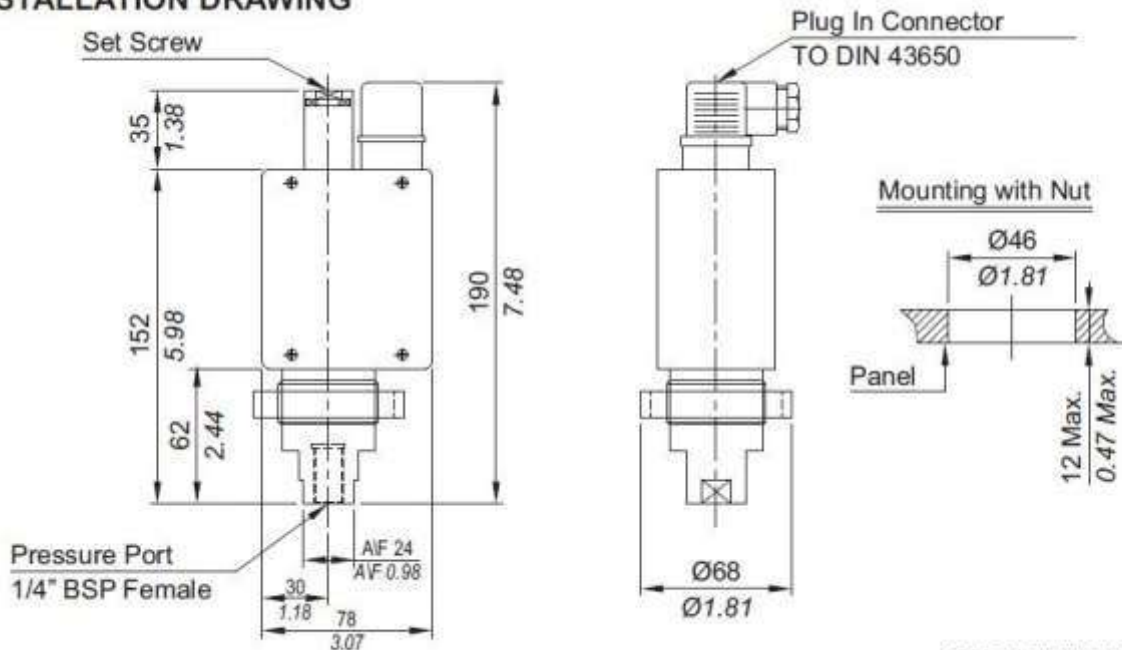


PRESSURE CAPSULE DETAILS



Note : wetted parts are mentioned in italics.

INSTALLATION DRAWING



APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

DT

HYDRAULIC RANGE PRESSURE SWITCH

General information:

DT series pressure switches have a cast aluminum enclosure (IP54) and are recommended for panel / line mounted hydraulic applications. The repeat accuracy is better than $\pm 2\%$ FSR. An electrical connector to DIN 43650 is provided for wiring. Pressure port is $\frac{1}{4}$ " BSPF standard

Features:

- Robust construction
- 15 A switching possible (optional)
- Panel mounting
- Protective lock to avoid tampering (optional)
- Choice of wetted parts to suit working media.
- Electrical rating : 5A,250VAC ;0.2A , 250 VDC(RES.) (optionally 15 A, 250 VAC)

Some Applications : : Used for heavy duty machine tool applications, low on-off differential, better sensitivity, high electrical rating(15A), etc.

Range Selection Table

Range Code	Range (rising pressure) bar (psi)	*Approximate Maximum Differential bar (psi)	Maximum Working Pressure bar (psi)
20 A	4 - 20 (58.01 - 90.08)	3 (43.51)	200 (2900.76)
40	5 - 20 (72.52 - 518.15)	5 (72.52)	80 (1160.3)
100	10 - 100 (145.04 - 1450.38)	12 (174.05)	120 (1740.45)
200	7-200 (101.52 - 2900.51)	24 (348.09)	200 (2900.76)
400	100 - 400 (1450.38 - 5801.51)	40 (580.15)	400 (5801.51)
600	60 - 600 (870.22 - 8702.26)	90 (1305.34)	600 (8702.26)

*differential rises with setpoint (Graphs available on request)

DT

HYDRAULIC RANGE PRESSURE SWITCH

Wetted Parts Table for DT Series

	Standard	Optional	Special
Piston	EN8	S.S.	for special wetted parts through chemical seals, please refer page 330,331 & 332 and specify in text accordingly.
*Backup ring	Teflon	Teflon	
O ring	Viton	Viton	
Pressure housing	Aluminum	Brass	
Surge suppressor	EN8	Brass	
Surge reducer	Brass	Brass	

* Backup ring is not used in all pressure ranges. Please contact sales office for details.

How to order DT series hydraulic pressure switches.

Group1	Group2	Group3	Group4	Group5	Group6
Model	RangeCode	Micro switch	Wetted Parts	Protective Lock	
DT - Hydraulic Pressure Switch	Please select as per range code table	C-rated at 5A, 250 VAC H-rated at 15A, 250 VAC	S-for Standard Wetted parts B-for optional wetted parts mentioned in table above X-Specify wetted parts in text as per technical	U-without any lock P with a protective lock	Reserved for Nonstandard modifications. Code will be given by company

eg. Hydraulic pressure switch, pressure range from 5 to 40 bar, with a standard 5 A,250 VAC micro switch, standard wetted parts and a protective lock shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
DT	40	C	S	P	-

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, pressure switches with standard wetted parts will be supplied.

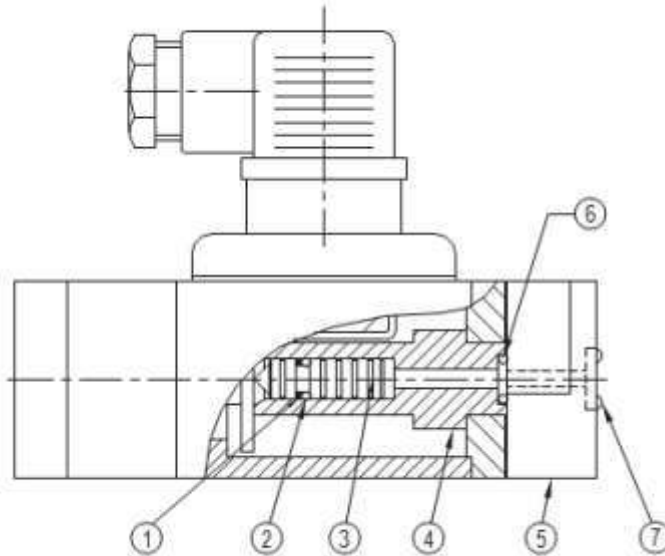
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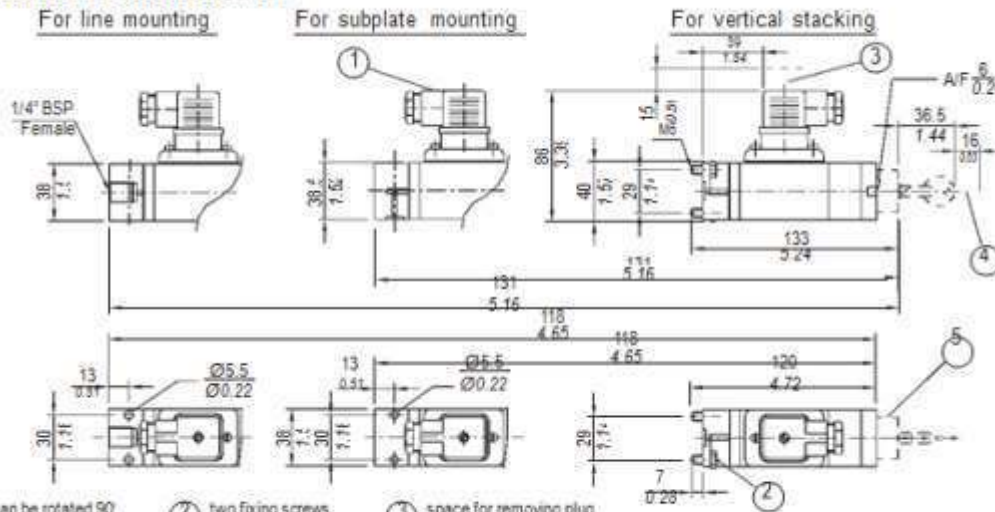
PRESSURE CAPSULE DETAILS



- | No. | Description |
|-----|-----------------------|
| 1. | Backup ring |
| 2. | Piston seal |
| 3. | Piston |
| 4. | Pressure housing |
| 5. | Base |
| 6. | Pressure housing seal |
| 7. | Base seal (O ring) |
- (N.A for line mounting style)

Note : wetted parts are mentioned in *italics*.

INSTALLATION DRAWING



- ① can be rotated 90°
- ② two fixing screws
- ③ space for removing plug
- ④ space for removing key
- ⑤ lockable protective cap

APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{INCHES}}$

HM HYDRAULIC PRESSURE SWITCHES

<p>General information: HM series pressure switches have a machined aluminum powder coated enclosure and are recommended for manifold mounting hydraulic applications. When fitted with different types of chemical seals these can also be used for various processes The repeat accuracy is better than $\pm 1\%$ FSR. A connector to DIN 43650 is provided for wiring.</p>	<p>Features: Compact Lightweight Three mounting styles Lockable protective cap to avoid tampering (optional) Choice of wetted parts to suit working media Electrical rating : 5A, 250 VAC; 0.2A, 250 VDC (res.)</p> <p>Some Applications : Used in compressors, hydraulic power packs, manifolds/stacks with sandwich plates, etc.</p>
--	--

Range Selection Table

Range Code	Range (falling pressure) bar (psi)	*Approximate Maximum Differential bar (psi)	Maximum Working Pressure bar (psi)
040	3 - 40 (43.51 - 580.15)	5 (72.52)	200 (2900.76)
100	10 - 100 (145.04 - 1450.38)	12 (174.05)	200 (2900.76)
200	7 - 200 (101.52 - 2900.76)	24 (348.09)	200 (2900.76)
400	100 - 400 (1450.38 - 5801.51)	40 (580.15)	400 (5801.51)

*differential rises with setpoint (Graphs available on request)

Wetted Parts Table for HM Hydraulic Series.

	Standard	Optional	Special
Piston	EN8	S.S.	for special wetted parts through chemical seals, please refer page 330,331 & 332 and specify in text accordingly.
Piston Seal	Viton	Viton	
Pressure housing	Aluminium	Brass/ M.S.	
Housing Seal	Nitrile	Viton	
Base	M.S.	Brass	
Base Seal	Nitrile	Viton	

How to order HM Hydraulic Series pressure switches.

Group1	Group2	Group3	Group4	Group5	Group6
Model	Range Code	Base Type	Protective Cap	Wetted Parts	Enclosure*
HM - Hydraulic Pressure Switch	Hydraulic Pressure Range	S - for Sub plate mounting. L - for line Mounting V - for vertical Stacking	U - without any protective cap P - with a lockable protective cap	M - for Standard Wetted parts. B - for Brass pressure housing, brass base, SS piston. All seals of Viton only X - Specify wetted parts in text as	0 - IP 65 as per IS 2147

*HM series flameproof versions will be available with 1/4" BSPF threading arrangement only. For corrosive media, a separate chemical seal can be provided.

eg. A hydraulic pressure switch, pressure range from 5 to 40 bar, as a vertical element with a lockable protective cap & standard wetted parts with a standard enclosure shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
HM	040	V	P	M	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, pressure switches with standard wetted parts will be supplied.

Continuous efforts for product development may necessitate changes in these details without notice

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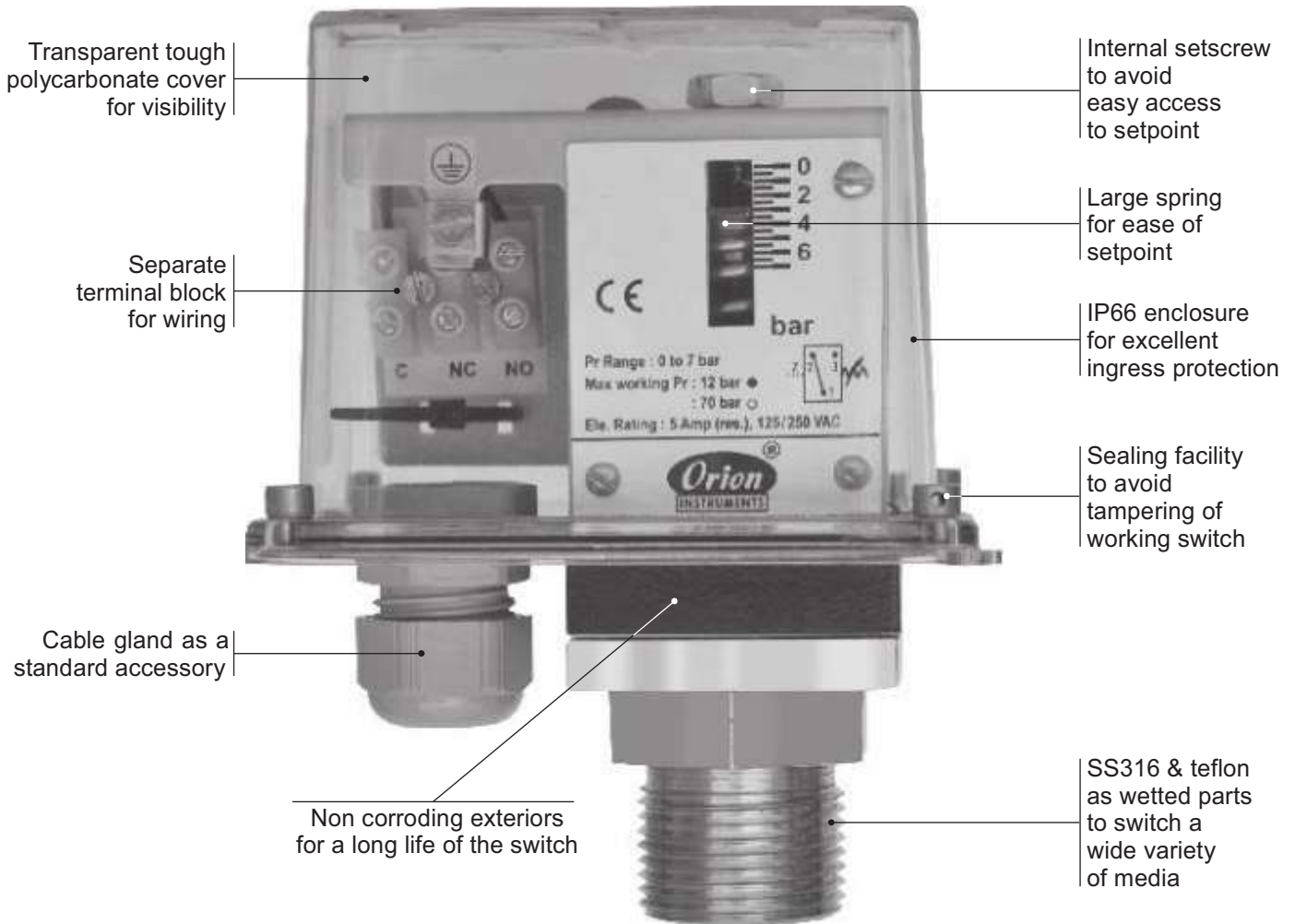
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MZ

LARGE BORE HIGH RANGE PRESSURE SWITCHES



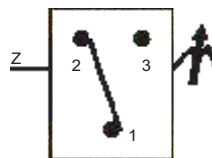
Approximate Weight : 0.900Kg.

Some Applications :

Applications requiring a large bore, for slurries, sludges, etc.

Electrical Connection :

Fig. 2



LARGE BORE HIGH RANGE PRESSURE SWITCHES

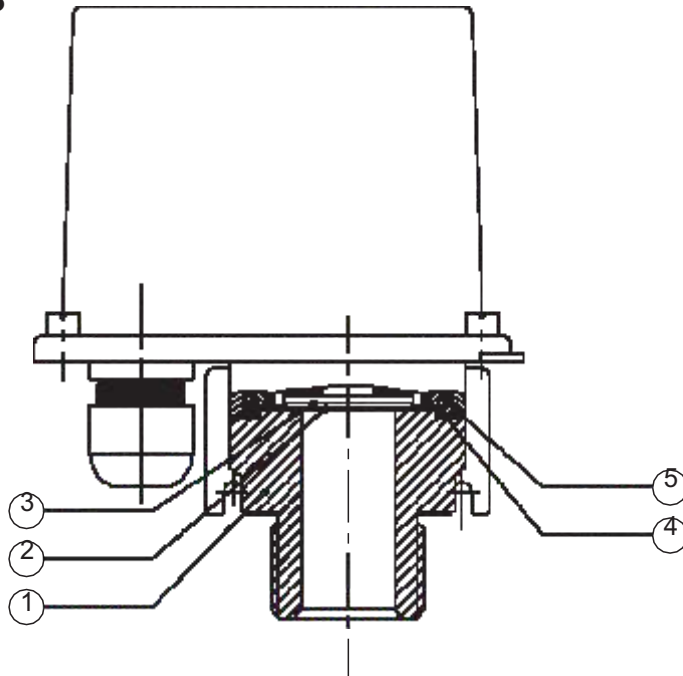
MZ



PRESSURE CAPSULE DETAILS

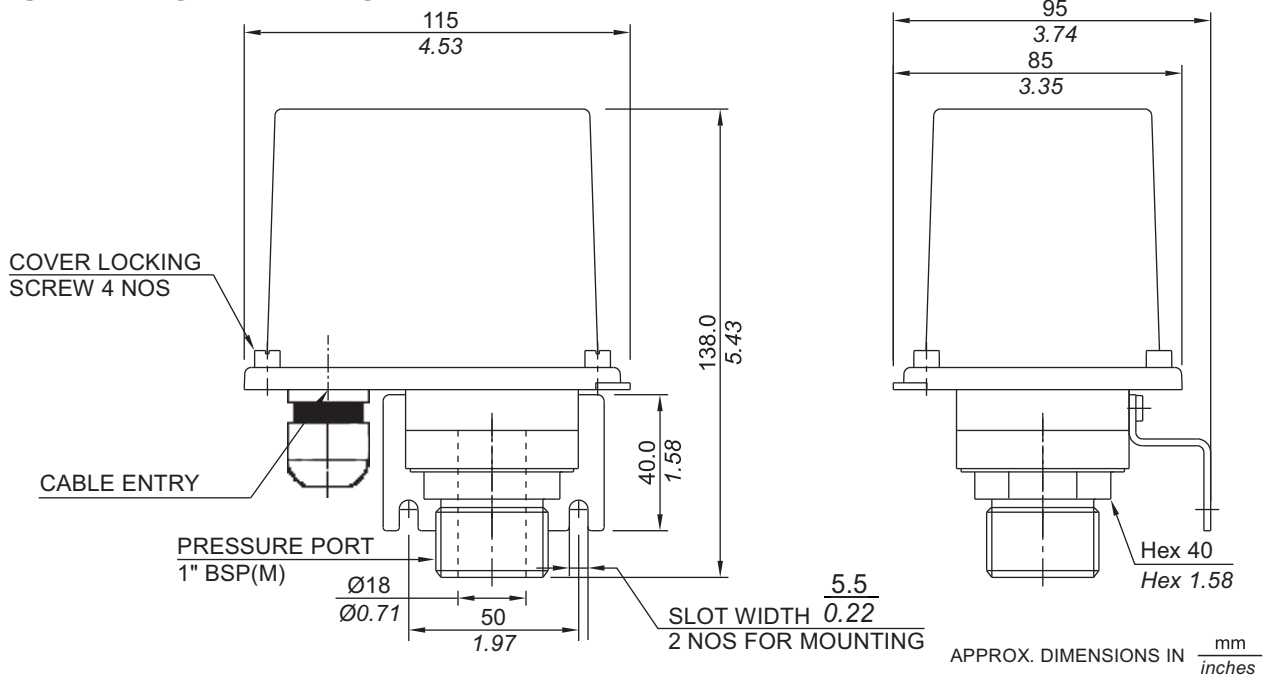
No. Description

1. *Pressure Port (SS316)*
2. *Diaphragm (Teflon®)*
3. Plunger
4. *O-Ring (Teflon®)*
5. Disc



Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



MZ LARGE BORE HIGH RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.43)	12 (171.43)
H02	0.1 - 1.5 (1.45 - 21.76)	0.20 (2.86)	12 (171.43)
H03	0.2 - 2.6 (2.90 - 37.71)	0.20 (2.86)	12 (171.43)
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.86)	12 (171.43)
H07	0.5 - 7.0 (7.25 - 101.50)	0.40 (5.72)	12 (171.43)
H10	0.5 - 10.0 (7.14 - 142.86)	0.60 (8.58)	25 (357.14)
H15	1.0 - 15.0 (14.29 - 214.29)	0.60 (8.58)	25 (357.14)
H30	5.0 - 25.0 (71.43 - 357.14)	0.80 (11.44)	35 (500.00)

*Minimum differential increases with setpoint (Graphs available on request), results for neoprene diaphragm.



Note: Welded diaphragm also available as shown

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Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with tough transparent polycarbonate enclosure to IP66 as per IS2147	3 = M20 X 1.5 cable gland	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi <small>*Available only with option A9 in Group 6</small>	H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6) H07 = (0.5 - 7.0) H10 = (0.5 - 10.0) H15 = (1.0 - 15.0) H30 = (5.0 - 25.0)	A8 = General purpose microswitch rated at 5A; 250 VAC A7 = 2SPDT microswitches A9 = General purpose microswitch rated @ 5A, 250 VAC <small>* Please refer note under Range Selection Table</small>	S3 = SS316 / 1" BSP(M) N3 = Monel / 1" BSP(M) <small>Please refer page no. 226 & 227 for more pressure port options</small>	0 = Neoprene 1 = Teflon 2 = SS 316L 4 = Monel
eg. A process pressure switch with fixed differential having 0.1 bar to 1 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with 1" BSPM port size & neoprene diaphragm shall be specified by							
<input type="checkbox"/>	MZ	3	PF2	H01	A8	S3	0

Please specify full model number to avoid ambiguity.

Continuous efforts for product development may necessitate changes in these details without notice

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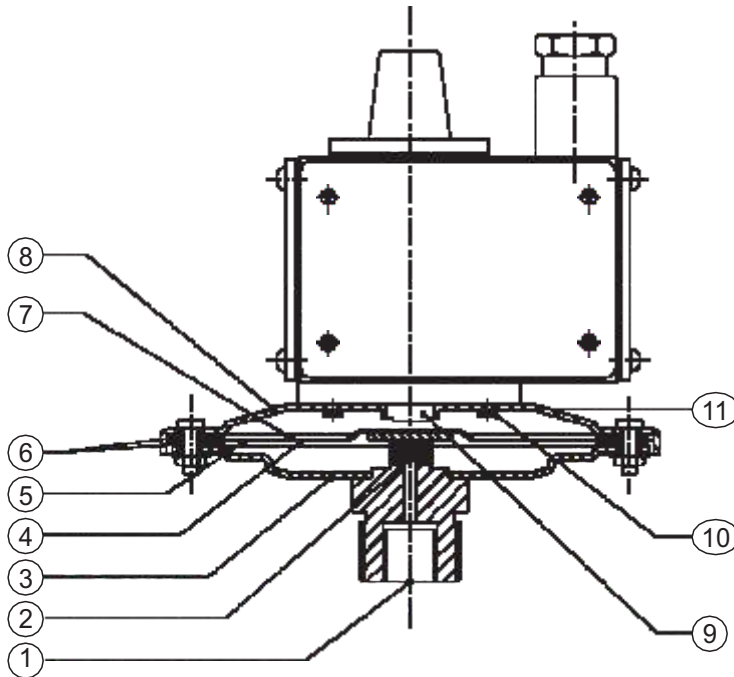
B-501/504, 5th floor, Raunak Arcade, Near THC Hospital, Gokhale Road, Naupada, Thane(W) 400602. Maharashtra INDIA
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PRESSURE CAPSULE DETAILS



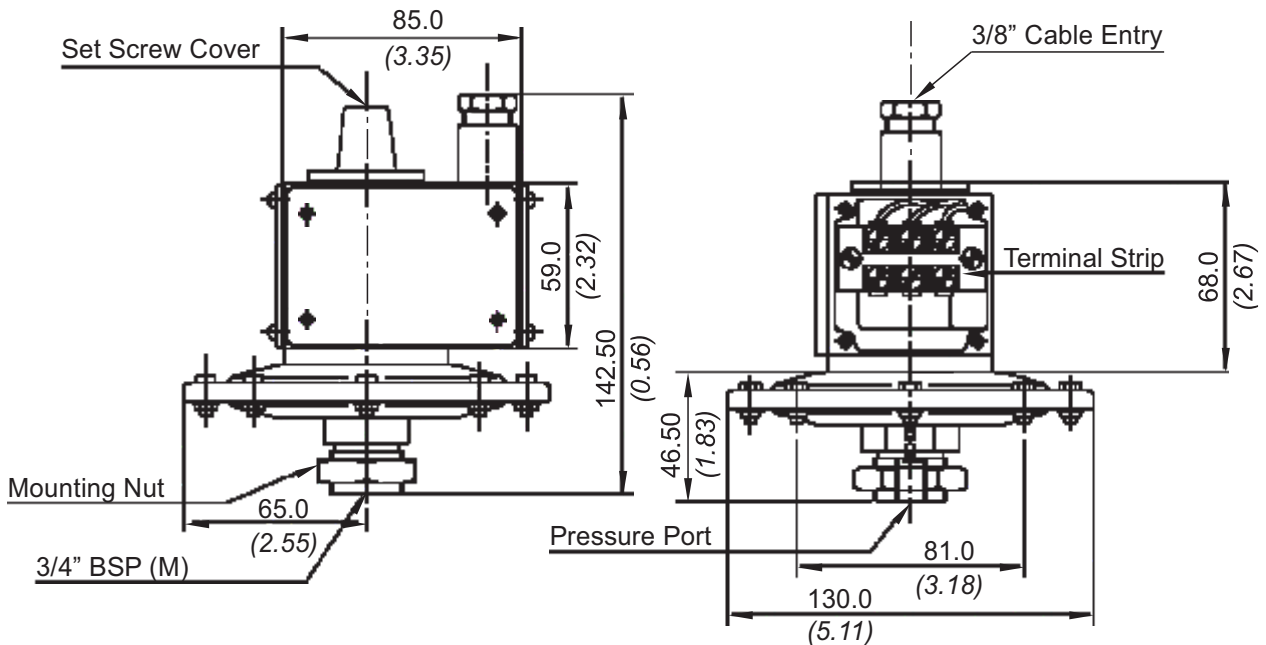
No. Description

1. Pressure Port (M.S.)*
2. Support Spring (S.S.)
3. Bottom Flange (M.S.)
4. Support plate (Aluminium)
5. Diaphragm (Neoprene)
6. Gasket (Nitrile)
7. Top Plate (Aluminium)
8. Top flange (M.S.)
9. Plunger
10. Top Flange Screw (M.S.)
11. Sealing 'O' ring (Nitrile)

*Pressure ports are brazed with flange

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



*Pressure ports are brazed with flange

APPROX. DIMENSIONS IN $\frac{\text{mm}}{\text{inches}}$

mm

LOW RANGE PRESSURE SWITCHES

MN & MA

General information:

MN /MA series low pressure range switches are housed in pressure die cast aluminum powder coated enclosure and are recommended for panel mounting or outdoor service based on the type of enclosure opted for. The repeat accuracy is better than $\pm 2\%$ FSR. A 3/8" cable entry is provided for cables and a terminal strip suitable for wired ends is provided inside the enclosure. Pressure port is 1/4" BSPF standard.

Features:

- Separate chamber for working parts
- Wide band adjustable differential in MA series.
- Choice of wetted parts to suit working media
- Electrical rating : 2A, 250 VAC; 0.2A, 250 VDC (res.)
- Proof pressure available is 1.5 times
- MWP Pressure port : 1/4" BSPF

Some Applications : Used in air dryers, low vacuum systems, etc.

Range Selection Table

Range Code	†Range mm wg ("wc)	Mn		Ma	
		*Approximate Maximum Differential (Fixed) mm wg ("wc)	*Adjustable Differential mm wg ("wc)	Maximum Working Pressure bar (psi)	
L02	20 - 150 (0.787 - 5.905)	30 (1.181)	30 - 100 (1.181 - 3.937)	2 (29.00)	
L03	50 - 250 (1.969 - 9.843)	50 (1.969)	50 - 250 (1.969 - 9.843)	2 (29.00)	
L05	100 - 500 (3.937 - 19.685)	75 (2.952)	50 - 300 (1.969 - 11.811)	2 (29.00)	
L10	100 - 1000 (3.937 - 39.370)	100 (3.937)	100 - 600 (3.937 - 23.622)	2 (29.00)	
L15	100 - 1500 (3.937 - 59.055)	125 (4.921)	125 - 900 (4.921 - 35.433)	2 (29.00)	
L25	200 - 2500 (7.874 - 98.425)	150 (5.906)	150 - 1500 (5.906 - 59.055)	2 (29.00)	

*Minimum differential increases with set point (Graphs available on request)

†Rising pressure for MN series, falling pressure for MA series

How to order MN / MA low range pressure switches

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Range Scale	Pressure Housing	Diaphragm	Enclosure
MN - Fixed Differential pressure switch MA- Adjustable differential pressure Switch	L - Low ranges	U - Uncalibrated C - Calibrated	M - M.S. S - SS316	0 - Neoprene 1 - Teflon	0 - IP 54 1 - IP 65

eg. A fixed diff. pressure switch, low pressure range from 200-2500 mmwg in uncalibrated style with M.S. pressure housing, a teflon diahgram & IP65 enclosure shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
MN	L25	U	M	1	1

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, uncalibrated switches with standard wetted parts and enclosures will be supplied.

Continuous efforts for product development may necessitate changes in these details without notice

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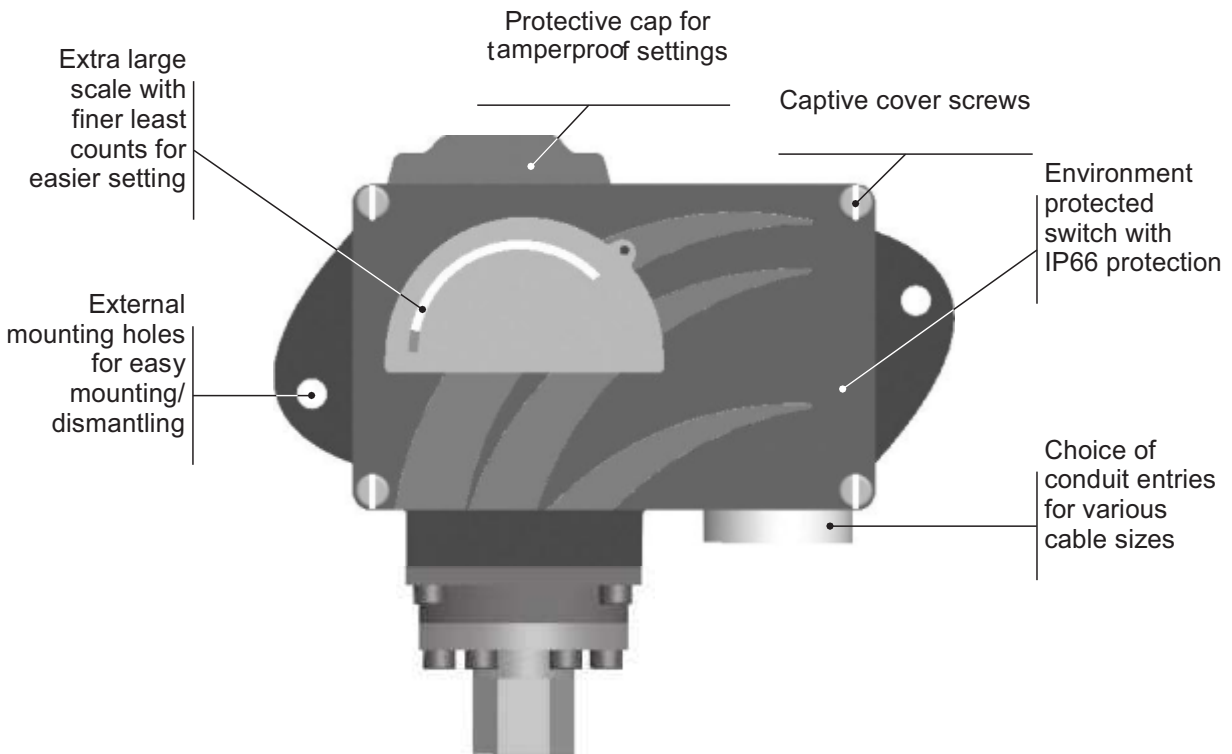
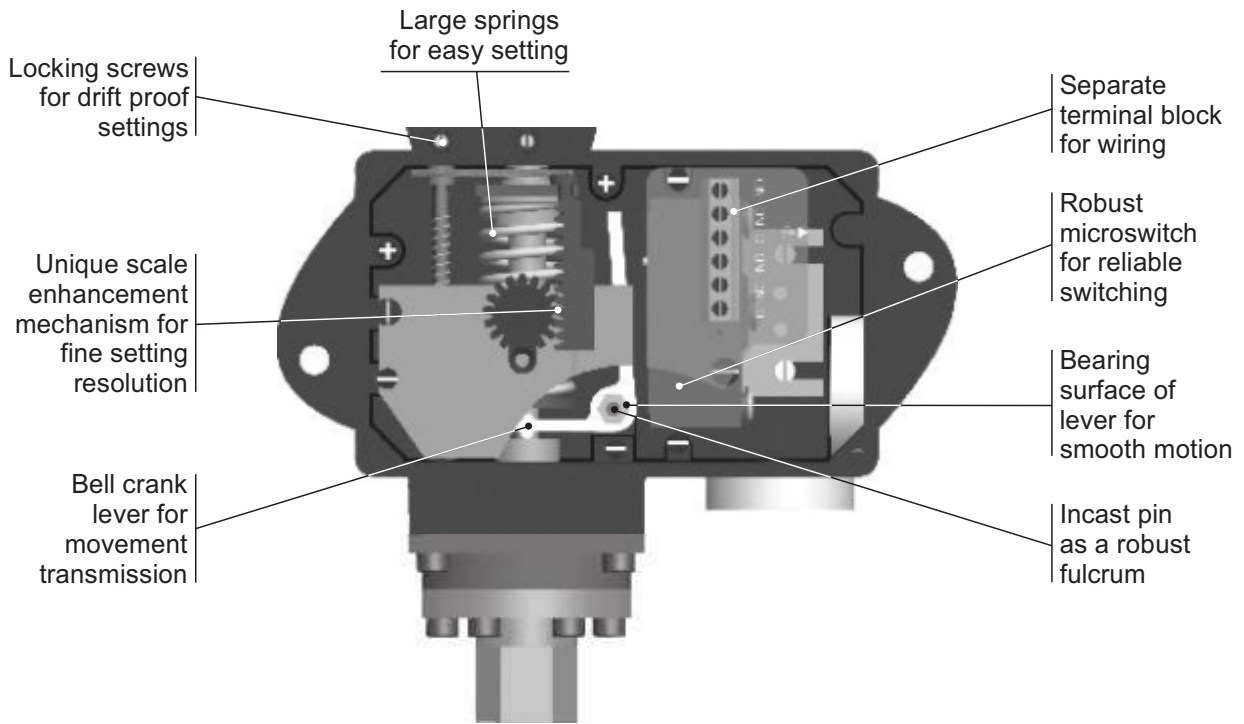
NK Instruments Pvt. Ltd.

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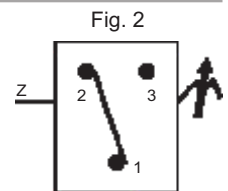
MD HYDRAULIC DIAPHRAGM SWITCH



Approximate Weight : 1.2 Kg.

Some Applications : Used for high pressure compressor systems, mainly used for gaseous media.

Electrical Connection :

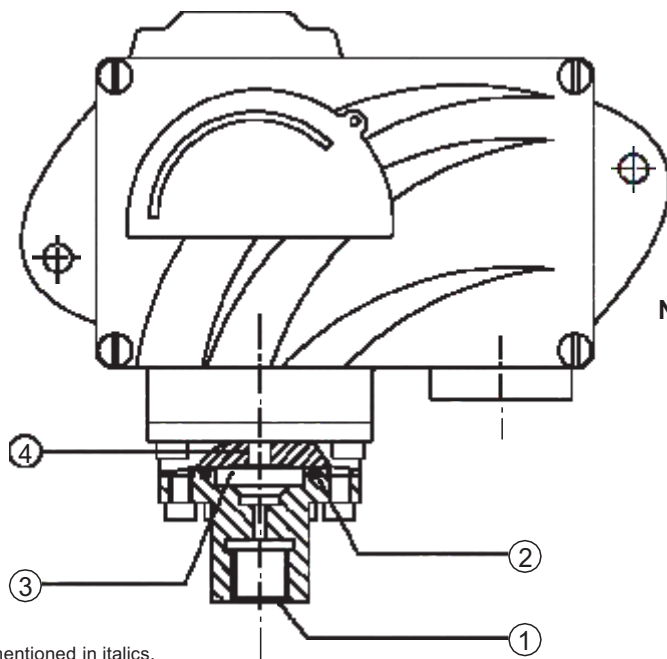


HYDRAULIC DIAPHRAGM SWITCH

MD



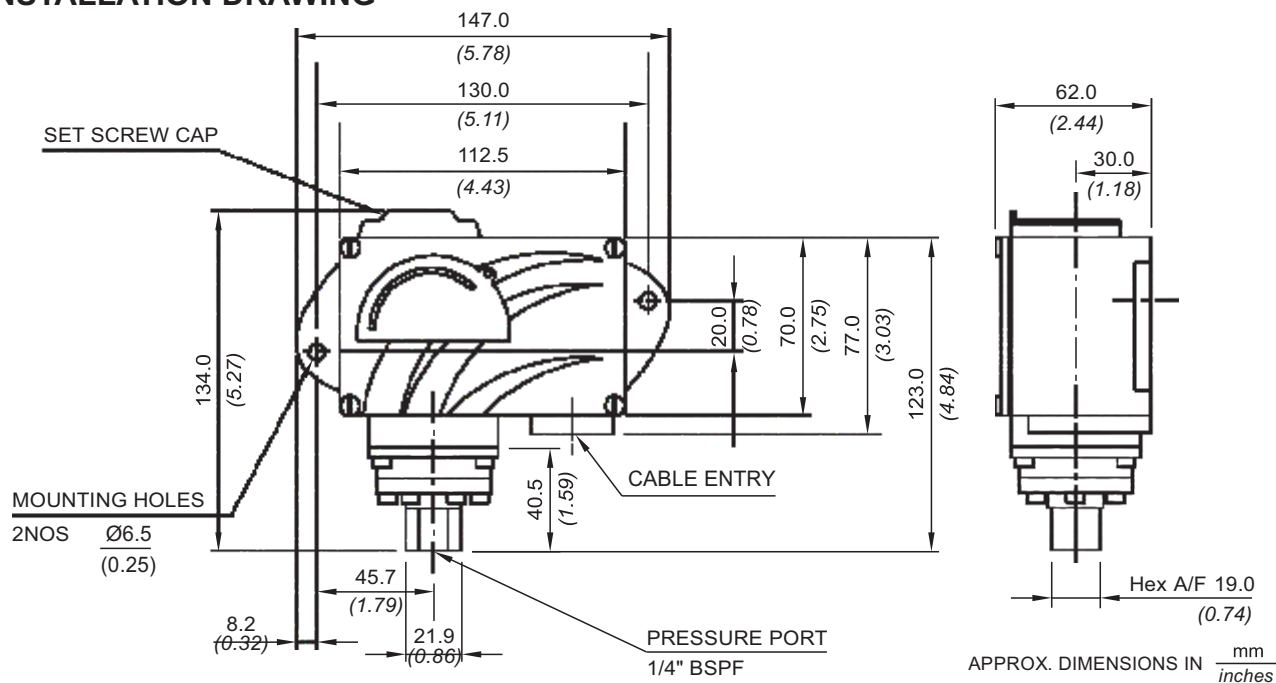
PRESSURE CAPSULE DETAILS



- No. Description**
1. Pressure Housing
 2. Teflon® O-Ring
 3. Diaphragm
 4. Plunger

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



MD HYDRAULIC DIAPHRAGM SWITCH

RANGE SELECTION TABLE

Range Code	Range bar (<i>psi</i>)	Differential* bar (<i>psi</i>)	Maximum Working Pressure bar (<i>psi</i>)
		Approximate Maximum for "A1" microswitch	
H1T	0.5 - 10 (7.25 - 145.04)	0.5 (7.25)	150 (2175.57)
H2T	2 - 20 (29.00 - 290.07)	2 (29.00)	200 (2900.76)
H4T	5 - 40 (72.52 - 580.15)	5 (72.52)	200 (2900.76)
H1H	10 - 100 (145.04 - 1450.38)	12 (174.05)	200 (2900.76)
H2H	7 - 200 (101.53 - 2900.76)	24 (348.09)	400 (5801.52)
H4H	40 - 400 (580.15 - 5801.52)	70 (1015.27)	500 (7251.9)

* Minimum differential increases with setpoint (Graphs available on request)

* Differentials of microswitches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 microswitch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

HOW TO ORDER INDUSTRIAL HYDRAULIC DIAPHRAGM RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Gas Group Classification	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MD = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147	1 = 1/2" NPT threads 2 = 3/4" NPT threads 3 = M20 X 1.5 threads	PF1 = pressure switch, fixed differential without scale PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA1 = pressure switch, adjustable differential without scale *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available with A9 (in group 6) only	H1T = (0.5 - 10) H2T = (2 - 20) H4T = (5 - 40) H1H = (10 - 100) H2H = (7 - 200) H4H = (40 - 400)	A1 = General purpose microswitch rated at 15 A; 250 VAC *A2 = Hermetically sealed for corrosive environments *A3 = gold plated contacts for low voltage applications *A4 = DPDT configuration *A5 = for high DC ratings *A7 = 2SPDT switching elements *A9 = General purpose microswitch rated at 5 A; 250 VAC Please refer page no. 230 for more microswitch options * Please refer note under Range Selection Table	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F)	2 = SS316L

eg. A hydraulic diaphragm pressure switch, with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 5 bar to 40 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MD	1	PF1	H4T	A1	S1	2

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, uncalibrated switches with standard wetted parts and enclosures will be supplied.

Continuous efforts for product development may necessitate changes in these details without notice

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PRESSURE SWITCHES
PRESSURE DIFFERENCE SWITCHES
VACUUM SWITCHES
From 1.5 mbar to 600 bar

MT Flanged Pressure Switch

CATALOGUE



Authorised Dealer



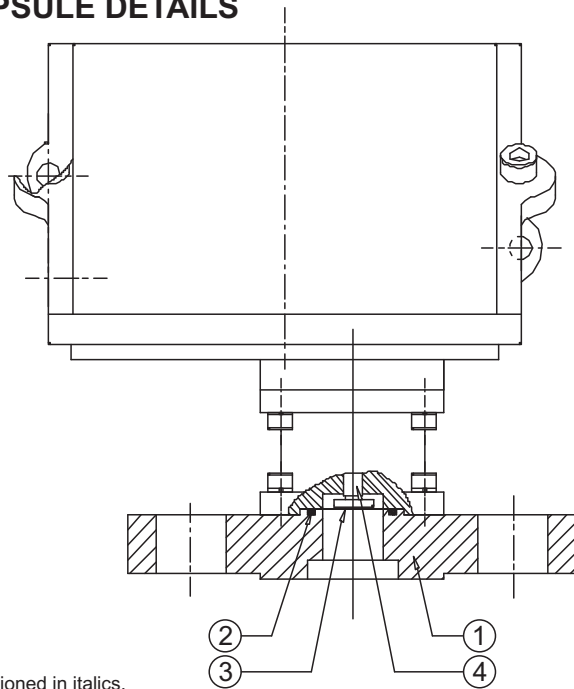
NK Instruments Pvt. Ltd.

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PRESSURE CAPSULE DETAILS

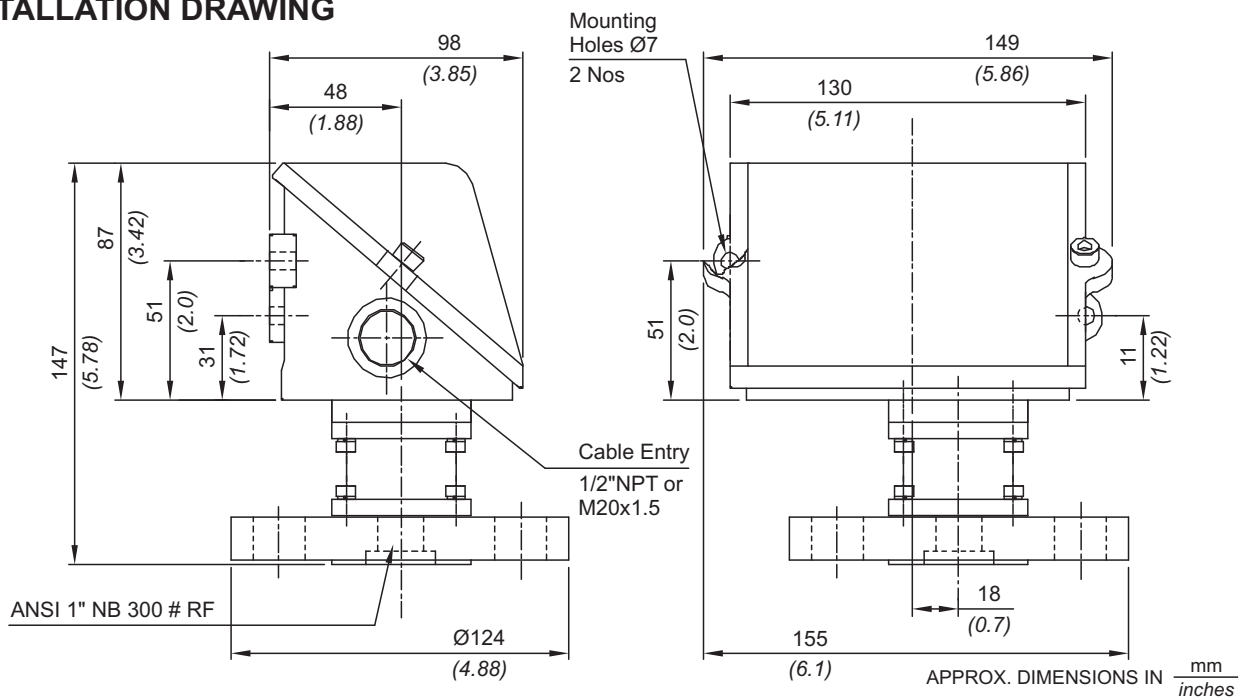


No. Description

1. ANSI 300 RF Flange (SS316)
2. O-Ring (Teflon®)
3. Diaphragm
4. Conical Plunger

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.45)	As per the class of flange Please consult Sales Office in case you need clarification on availability of maximum working pressure for a particular range.
H02	0.1 - 1.5 (1.45 - 21.76)	0.12 (1.74)	
H03	0.2 - 2.6 (2.90 - 37.71)	0.15 (2.17)	
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.90)	
H07	0.5 - 7.0 (7.25 - 101.50)	0.40 (5.80)	
H10	0.5 - 10.0 (7.25 - 145.04)	0.40 (5.80)	
H15	1.0 - 15.0 (14.50 - 217.56)	0.80 (11.60)	
H30	5.0 - 25.0 (72.52 - 362.6)	0.80 (11.60)	
H4T	5 - 40 (72.52 - 580.15)	5 (72.52)	
H1H	10 - 100 (145.04 - 1450.38)	12 (174.05)	
H2H	7 - 200 (101.53 - 2900.76)	24 (348.09)	

* Minimum differential increases with setpoint (Graphs available on request)

* Differentials of microswitches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 microswitch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

FLANGE CODE TABLE

	SS316L		Hastelloy C276		Monel		Titanium		Tantalum	
	RF*	FF*	RF*	FF*	RF*	FF*	RF*	FF*	RF*	FF*
150 #										
1" NB	AC	BS	DI	EY	GO	IE	JU	LK	NA	OQ
2" NB	AF	BV	DL	FB	GR	IH	JX	LN	ND	OT
300#										
1" NB	AI	BY	DO	FE	GU	IK	KA	LQ	NG	OW
2" NB	AL	CB	DR	FH	GX	IN	KD	LT	NJ	OZ
2500#										
1" NB	BM	DC	ES	GI	HY	JO	LE	MU	OK	QA
2" NB	BP	DF	EV	GL	IB	JR	LH	MX	ON	QD

*RF = Raised Face

*FF = Flat Face

RANGE AVAILABILITY AS PER BORE SIZES

	H01 to H04	H07	H10	H15	H30	H2T to H2H
1" NB	NA	Yes	Yes	Yes	Yes	Yes
2" NB	Yes	Yes	Yes	Yes	Yes	Yes

HOW TO ORDER INDUSTRIAL FLANGED PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<p>Non standard allocation</p> <p><input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.</p>	<p>Model</p> <p>MT = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147</p>	<p>Cable Entry Size</p> <p>1 = 1/2" NPT threads 2 = 3/4" NPT threads 3 = M20 X 1.5 threads</p>	<p>Switch Type ANSI flanged</p> <p>AF1 = pressure switch, fixed differential without scale AF2 = pressure switch, fixed differential with scale in bar AF3 = pressure switch, fixed differential with scale in psi AA1 = pressure switch, adjustable differential without scale AA2 = pressure switch, adjustable differential with scale in bar AA3 = pressure switch, adjustable differential with scale in psi *Available with A9 (in group 6) only</p>	<p>Range Code (values in bar)</p> <p>H01 = 0.1 - 1.0 H02 = 0.1 - 1.5 H03 = 0.2 - 2.6 H04 = 0.2 - 3.6 H07 = 0.5 - 7.0 H10 = 0.5 - 10.0 H15 = 1.0 - 15.0 H30 = 5.0 - 25.0 H4T = 5 - 40 H1H = 10 - 100 H2H = 7 - 200</p>	<p>Microswitch Type</p> <p>A1 = General purpose microswitch rated at 15 A; 250 VAC A2 = Hermetically sealed for corrosive environments A3 = gold plated contacts for low voltage applications A4 = DPDT configuration A5 = for high DC ratings A7 = 2SPDT switching elements A9 = General purpose microswitch rated at 5 A; 250 VAC</p> <p>Please refer page no. 230 for more microswitch options * Please refer note under Range Selection Table</p>	<p>Flange Size and Material</p> <p>Please select as per Flange Code Table</p> <p>For other classes and sizes please refer page no. 228 & 229</p>	<p>Diaphragm</p> <p>0 = Neoprene 1 = Teflon 2 = SS316L 3 = Hastelloy C 4 = Monel 400 5 = Titanium 6 = Tantalum</p>

eg. A high range Industrial/ANSI flanged pressure switch with 1/2" NPT cable entry with fixed differential without scale, having 0.1 bar to 1 bar pressure range, with 15-Amp. microswitch, and 2" 150# RF SS316L flange & SS316L diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MT	1	AF1	H01	A1	AF	2

Please specify full model number to avoid ambiguity.



**PRESSURE SWITCHES
PRESSURE DIFFERENCE SWITCHES
VACUUM SWITCHES**
From 1.5 mbar to 600 bar

MT High Proof High Range Pressure Switches

CATALOGUE



Authorised Dealer



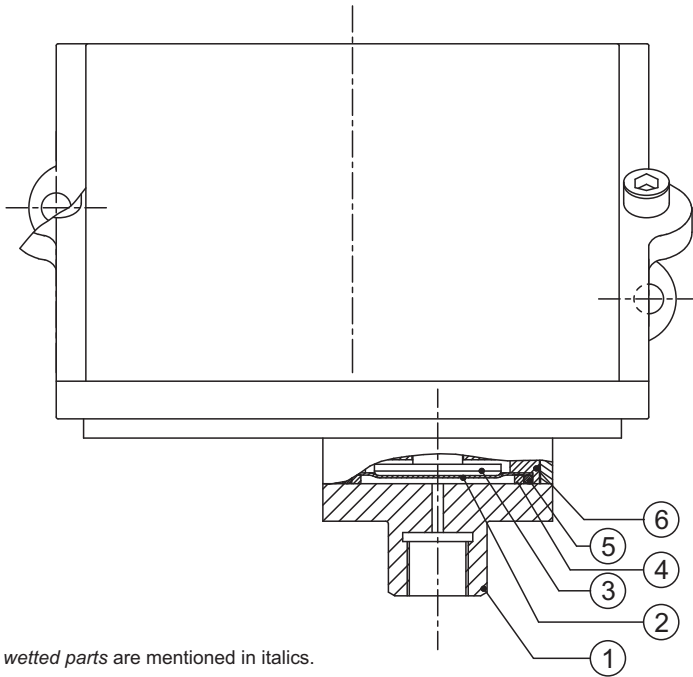
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PRESSURE CAPSULE DETAILS

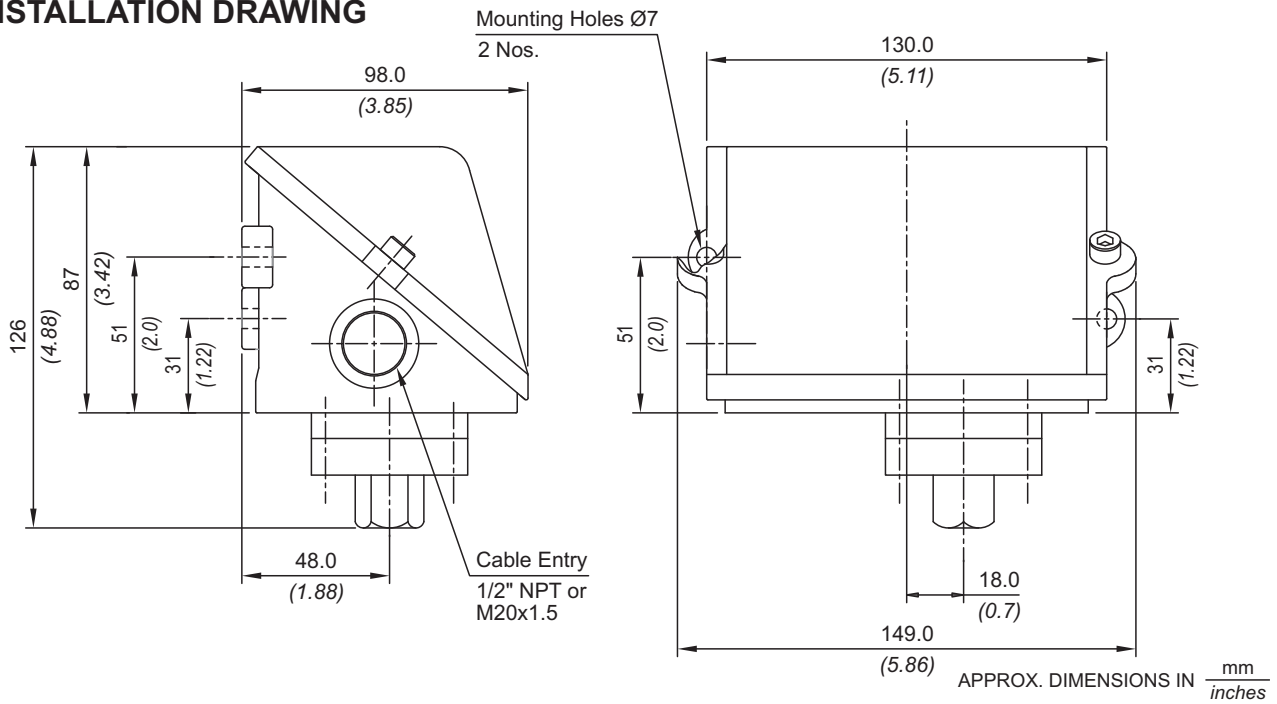


No. Description

1. Pressure port (SS316)
2. Diaphragm (Teflon)
3. Plunger
4. Steel ring (SS316)
5. O-ring (Teflon)
6. Disc

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



RANGE SELECTION TABLE

Range Code	Range bar (psi) ()	Differential* bar (psi)	Maximum Working Pressure bar (psi) ()
		Approximate Maximum for "A1" microswitch	
PP	0.067 - 0.213 (0.97 - 3.09)	0.04 (0.58)	70 (1015.27)
PP5	0.1 - 0.5 (1.45 - 7.25)	0.15 (2.176)	70 (1015.27)
P01	0.1 - 1.0 (1.45 - 14.50)	0.20 (2.90)	70 (1015.27)
P02	0.1 - 1.5 (1.45 - 21.76)	0.20 (2.90)	70 (1015.27)
P03	0.2 - 2.6 (2.90 - 37.71)	0.30 (4.35)	70 (1015.27)
P04	0.2 - 3.6 (2.90 - 52.21)	0.40 (5.80)	70 (1015.27)
P07	0.5 - 7.0 (7.25 - 101.50)	0.60 (8.70)	70 (1015.27)
P10	0.5 - 10.0 (7.25 - 145.04)	0.80 (11.60)	70 (1015.27)
P15	1.0 - 15.0 (14.5 - 217.6)	1.50 (23.21)	70 (1015.27)
P30	5.0 - 25.0 (72.52 - 362.5)	2.00 (29.00)	70 (1015.27)

*Minimum differential increases with setpoint, values with neoprene diaphragm (Graphs available on request)

*** Note :**

Microswitches A2 through A9 can be supplied in some ranges and differentials will vary with microswitch used. Please contact sales office for details. Please check availability of adjustable differential with sales office.

HOW TO ORDER INDUSTRIAL HIGH PROOF HIGH RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MT = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147	1 = 1/2" NPT threads 3 = M20 X 1.5 threads	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available with A9 (in group 6) only	PP = (0.067 - 0.213) PP5 = (0.1 - 0.5) P01 = (0.1 - 1.0) P02 = (0.1 - 1.5) P03 = (0.2 - 2.6) P04 = (0.2 - 3.6) P07 = (0.5 - 7.0) P10 = (0.5 - 10.0) P15 = (1.0 - 15.0) P30 = (5.0 - 25.0)	A1 = General purpose microswitch rated at 15 A; 250 VAC *A2 = Hermetically sealed for corrosive environments *A3 = gold plated contacts for low voltage applications *A4 = DPDT configuration *A5 = for high DC ratings *A7 = 2SPDT switching elements *A9 = General purpose microswitch rated at 5 A; 250 VAC * Please refer note under Range Selection Table	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F)	0 = Neoprene 1 = Teflon 2 = SS 316L

eg. A high proof high range weatherproof switch with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 0.1 bar to 1 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MT	1	PF2	P01	A1	S1	0

Please specify full model number to avoid ambiguity.



PRESSURE SWITCHES
PRESSURE DIFFERENCE SWITCHES
VACUUM SWITCHES
From 1.5 mbar to 600 bar

MT Hydraulic Diaphragm Switches

CATALOGUE



Authorised Dealer

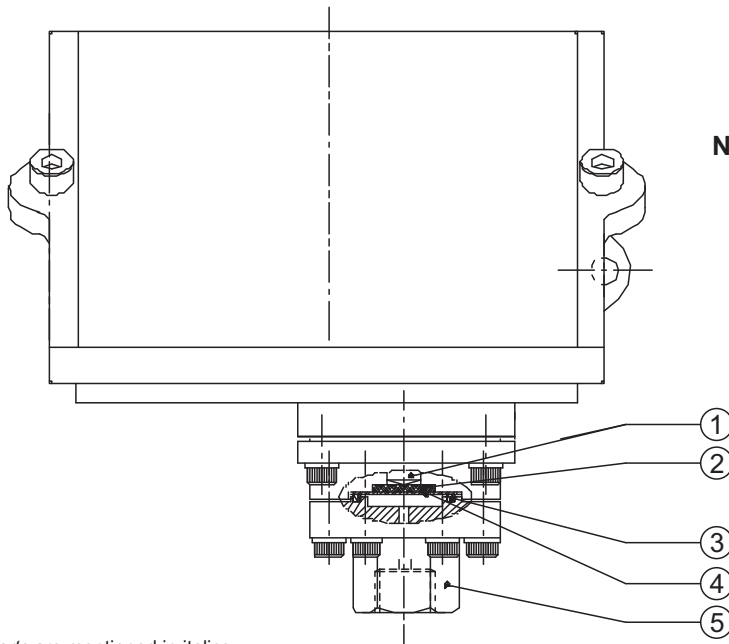


NK Instruments Pvt. Ltd.

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Thane(W) 400602. Maharashtra INDIA Telefax Nos.: 91-22-25301330 / 31 / 32
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Skype: nitinkelkarskype Gtalk: nkinstruments2006



PRESSURE CAPSULE DETAILS



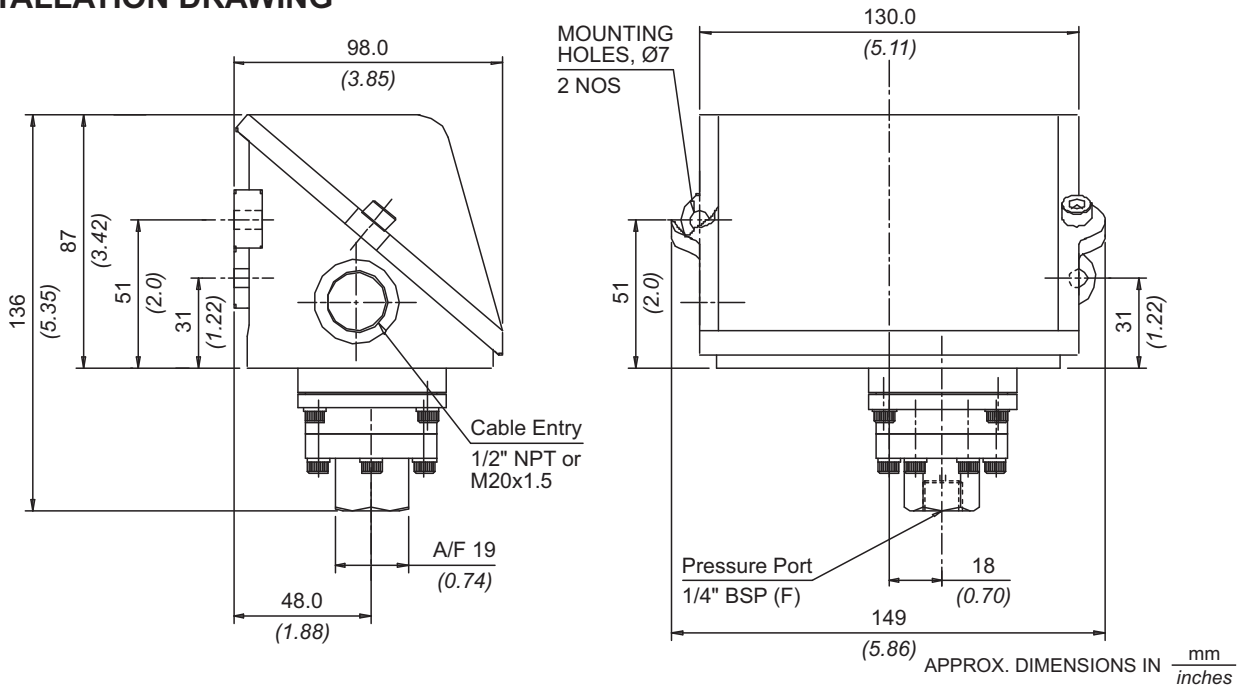
No. Description

1. Transfer Pin
2. Cushioning Pad
3. Teflon 'O' ring
4. Diaphragm
5. Pressure Housing

Note : *wetted parts* are mentioned in italics.

*Pressure ports are brazed with flange

INSTALLATION DRAWING



HYDRAULIC DIAPHRAGM SWITCH **MT**

RANGE SELECTION TABLE

Range Code	Range bar (<i>psi</i>)	Differential* bar (<i>psi</i>)	Maximum Working Pressure bar (<i>psi</i>)
		Approximate Maximum for "A1" microswitch	
H1T	0.5 - 10 (7.25 - 145.04)	0.5 (7.25)	150 (2175.57)
H2T	2 - 20 (29.00 - 290.07)	2 (29.00)	200 (2900.76)
H4T	5 - 40 (72.52 - 580.15)	5 (72.52)	200 (2900.76)
H1H	10 - 100 (145.04 - 1450.38)	12 (174.05)	200 (2900.76)
H2H	7 - 200 (101.53 - 2900.76)	24 (348.09)	400 (5801.52)
H4H	40 - 400 (580.15 - 5801.52)	70 (1015.27)	500 (7251.9)

*Minimum differential increases with setpoint, values with neoprene diaphragm (Graphs available on request)

* Differentials of microswitches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 microswitch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

HOW TO ORDER INDUSTRIAL HYDRAULIC DIAPHRAGM RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation <input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	Gas Group Classification MT = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS/IEC 60529	Cable Entry Size 1 = Al. head 1/2" NPT threads 3 = Al. head M20 X 1.5 threads	Switch Type PF1 = pressure switch, fixed differential without scale PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA1 = pressure switch, adjustable differential without scale *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available with A9 (in group 6) only	Range Code (values in bar) H1T = (0.5 - 10) H2T = (2 - 20) H4T = (5 - 40) H1H = (10 - 100) H2H = (7 - 200) H4H = (40 - 400)	Microswitch Type A1 = General purpose microswitch rated at 15 A; 250 VAC *A2 = Hermetically sealed for corrosive environments *A3 = gold plated contacts for low voltage applications *A4 = DPDT configuration *A5 = for high DC ratings *A7 = 2SPDT switching elements *A9 = General purpose microswitch rated at 5 A; 250 VAC	Pressure Port Material / Size S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F)	Diaphragm 2 = SS316L

eg. A hydraulic diaphragm pressure switch, with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 5 bar to 40 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
□	MT	1	PF1	H4T	A1	S1	2

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, uncalibrated switches with standard wetted parts and enclosures will be supplied.



**PRESSURE SWITCHES
PRESSURE DIFFERENCE SWITCHES
VACUUM SWITCHES**
From 1.5 mbar to 600 bar

MT Hydraulic Range Pressure Switches

CATALOGUE



Authorised Dealer



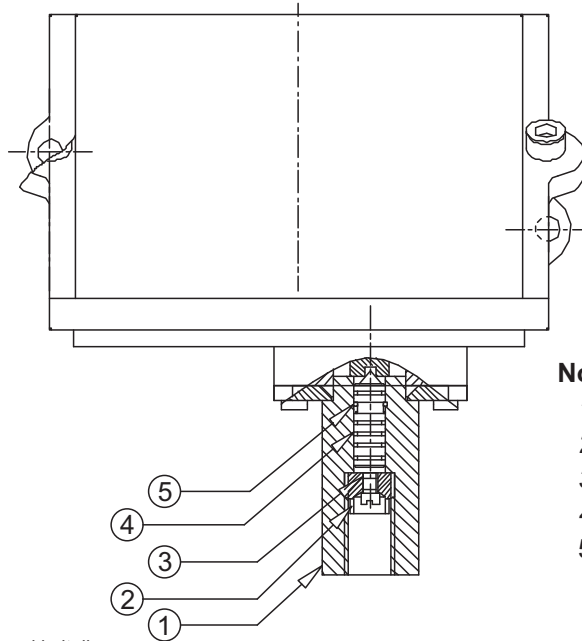
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PRESSURE CAPSULE DETAILS



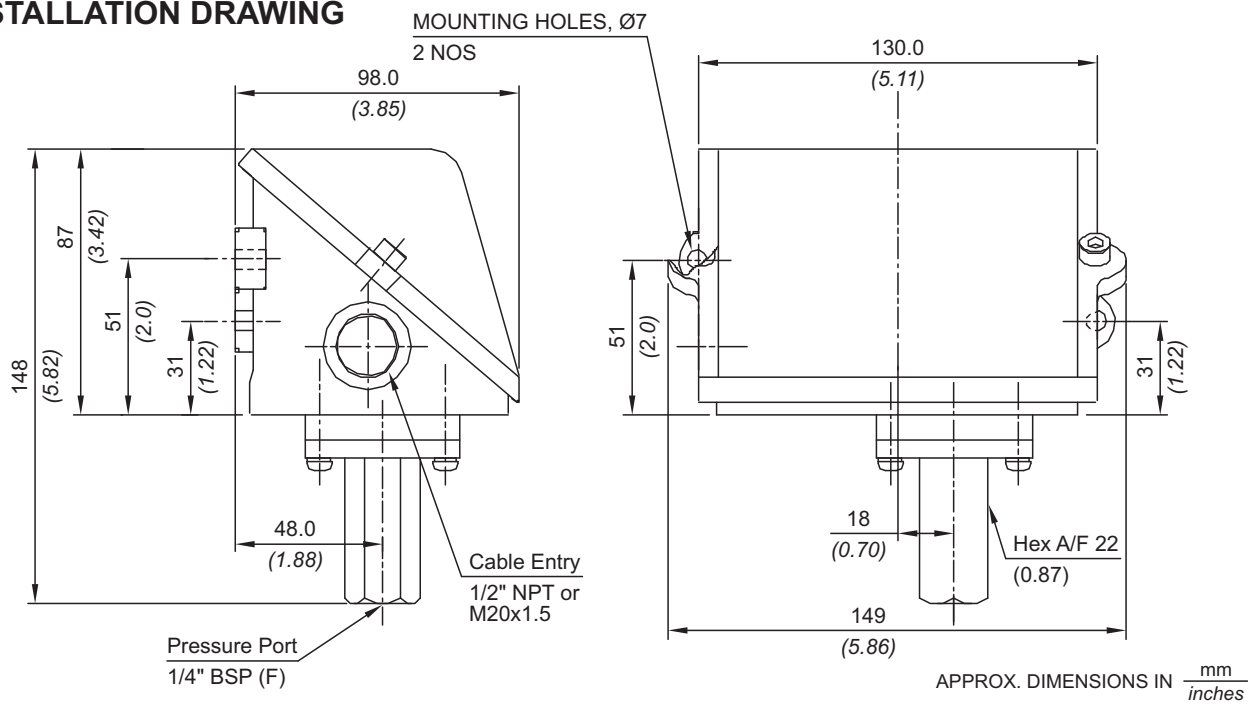
No. Description

1. Pressure housing
2. Surge arrestor
3. Surge reducer
4. Piston
5. 'O' ring

Note : *wetted parts* are mentioned in italics.

*Pressure ports are brazed with flange

INSTALLATION DRAWING



RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
040	5 - 40 (72.52 - 580.15)	5 (72.52)	80 (1160.30)
100	10 - 100 (145.04 - 1450.38)	12 (174.05)	120 (1740.45)
200	7 - 200 (101.53 - 2900.76)	24 (348.09)	200 (2900.76)
350	35 - 350 (507.63 - 5076.33)	30 (435.11)	500 (7251.9)
400	100 - 400 (1450.38 - 5801.52)	30 (435.11)	400 (5801.52)

*Minimum differential increases with setpoint, values with neoprene diaphragm (Graphs available on request)

* Differentials of microswitches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 microswitch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

HOW TO ORDER INDUSTRIAL HYDRAULIC RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Piston
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MT = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS/IEC 60529	1 = Al. head 1/2" NPT threads 3 = Al. head M20 X 1.5 threads	PF1 = pressure switch, fixed differential without scale PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA1 = pressure switch, adjustable differential without scale *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi <small>*Available with A9 (in group 6) only</small>	040 = (5 - 40) 100 = (10 - 100) 200 = (7 - 200) 350 = (35 - 350) 400 = (100 - 400)	A1 = General purpose microswitch rated at 15 A; 250 VAC *A2 = Hermetically sealed for corrosive environments *A3 = gold plated contacts for low voltage applications *A4 = DPDT configuration *A5 = for high DC ratings *A7 = 2SPDT switching elements *A9 = General purpose microswitch rated at 5 A; 250 VAC	S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F)	2 = SS

eg. A hydraulic weatherproof switch, with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 5 bar to 40 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MT	1	PF1	040	A1	S1	-

Please specify full model number to avoid ambiguity.



PRESSURE SWITCHES
PRESSURE DIFFERENCE SWITCHES
VACUUM SWITCHES
From 1.5 mbar to 600 bar

MT Large Bore High Range Pressure Switches

CATALOGUE



Authorised Dealer



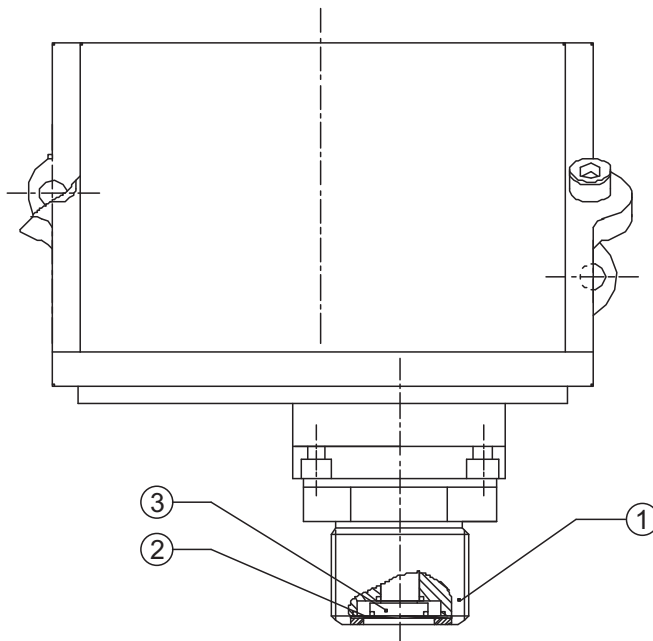
NK Instruments Pvt. Ltd.

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PRESSURE CAPSULE DETAILS



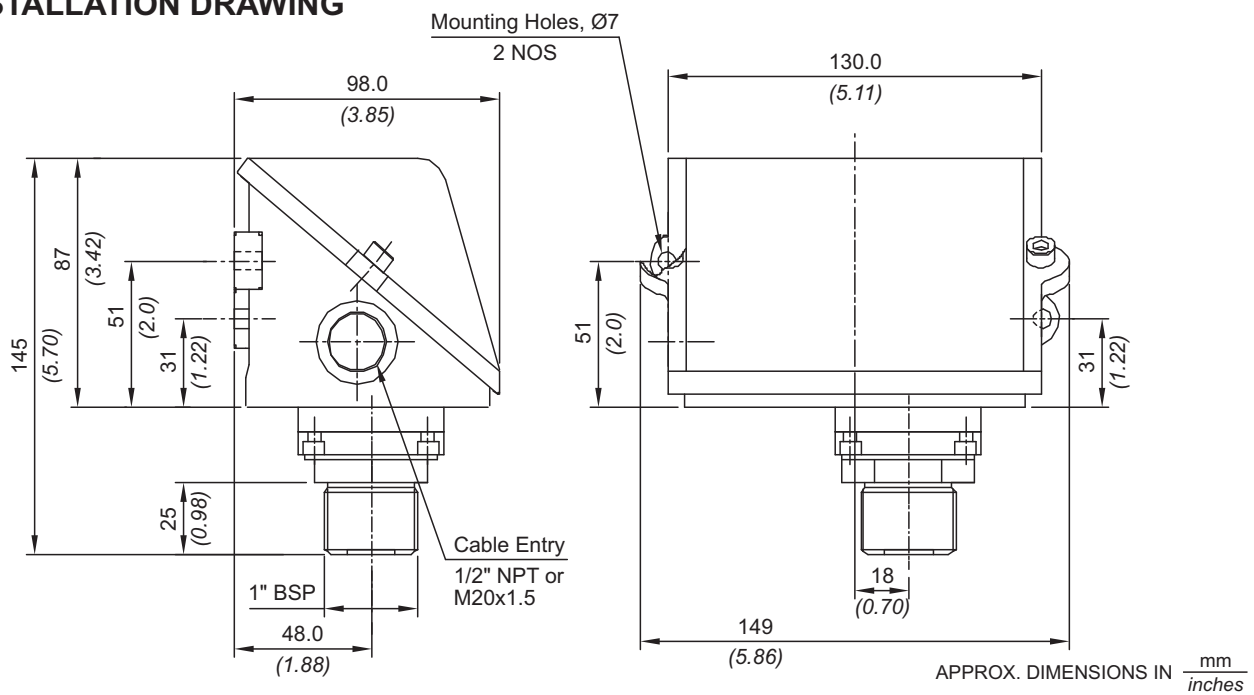
No. Description

1. Pressure housing (SS316)
2. Diaphragm (SS316)
3. Plunger (SS316)

Note : *wetted parts* are mentioned in italics.

*Pressure ports are brazed with flange

INSTALLATION DRAWING



RANGE SELECTION TABLE

Range Code	Range bar (psi) <i>(psi)</i>	Differential* bar (psi) <i>(psi)</i>	Maximum Working Pressure bar (psi) <i>(psi)</i>
		Approximate Maximum for "A8" microswitch	
H01	0.1 - 1.0 <i>(1.45 - 14.50)</i>	0.10 <i>(1.43)</i>	12 <i>(171.43)</i>
H02	0.1 - 1.5 <i>(1.45 - 21.76)</i>	0.20 <i>(2.86)</i>	12 <i>(171.43)</i>
H03	0.2 - 2.6 <i>(2.90 - 37.71)</i>	0.20 <i>(2.86)</i>	12 <i>(171.43)</i>
H04	0.2 - 3.6 <i>(2.90 - 52.21)</i>	0.20 <i>(2.86)</i>	12 <i>(171.43)</i>
H07	0.5 - 7.0 <i>(7.25 - 101.50)</i>	0.40 <i>(5.72)</i>	12 <i>(171.43)</i>
H10	0.5 - 10.0 <i>(7.14 - 142.86)</i>	0.60 <i>(8.58)</i>	25 <i>(357.14)</i>
H15	1.0 - 15.0 <i>(14.29 - 214.29)</i>	0.60 <i>(8.58)</i>	25 <i>(357.14)</i>
H30	5.0 - 25.0 <i>(71.43 - 357.14)</i>	0.80 <i>(11.44)</i>	35 <i>(500.00)</i>

*Minimum differential increases with setpoint (Graphs available on request), results for neoprene diaphragm.



Note: Welded diaphragm also available as shown

HOW TO ORDER INDUSTRIAL LARGE BORE HIGH RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MT = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147	1 = Al. head 1/2" NPT threads 3 = Al. head M20 X 1.5 threads	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi	H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6) H07 = (0.5 - 7.0) H10 = (0.5 - 10.0) H15 = (1.0 - 15.0) H30 = (5.0 - 25.0)	A1 = General purpose microswitch rated at 15 A; 250 VAC A2 = Hermetically sealed for corrosive environments A3 = gold plated contacts for low voltage applications A4 = DPDT configuration A5 = for high DC ratings A7 = 2SPDT switching elements A9 = General purpose microswitch rated at 5 A; 250 VAC Please refer page no. 230 for more microswitch options * Please refer note under Range Selection Table	S3 = SS316 / 1" BSP(M) N3 = Monel / 1" BSP(M)	0 = Neoprene 1 = Teflon 2 = SS 316L 4 = Monel

eg. Industrial switch with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fix differential with scale having 0.1 bar to 1 bar pressure range, with 15Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MT	1	PF2	H01	A1	S3	0

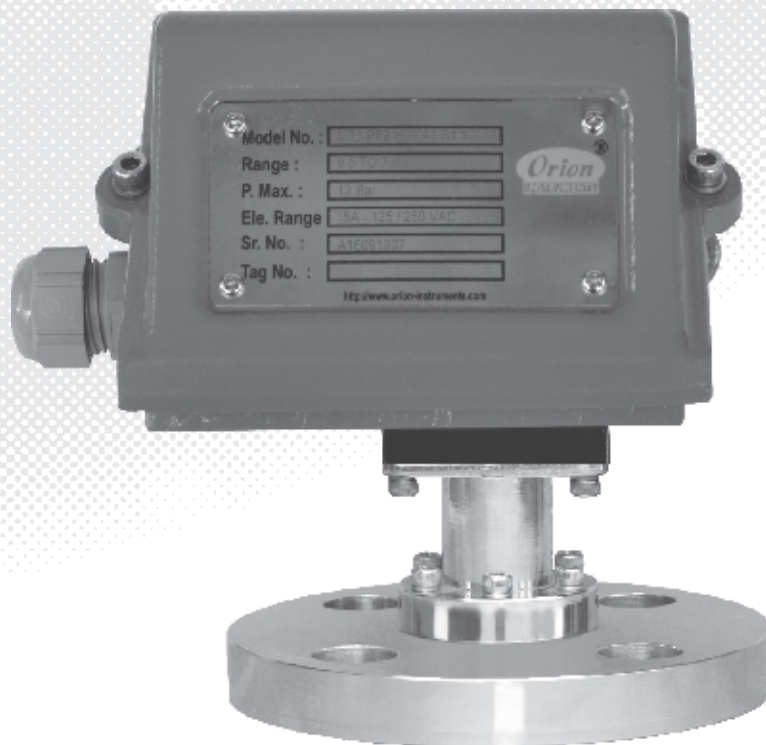
Please specify full model number to avoid ambiguity.



PRESSURE SWITCHES
PRESSURE DIFFERENCE SWITCHES
VACUUM SWITCHES
From 1.5 mbar to 600 bar

MT Flanged Pressure Switch

CATALOGUE



Authorised Dealer



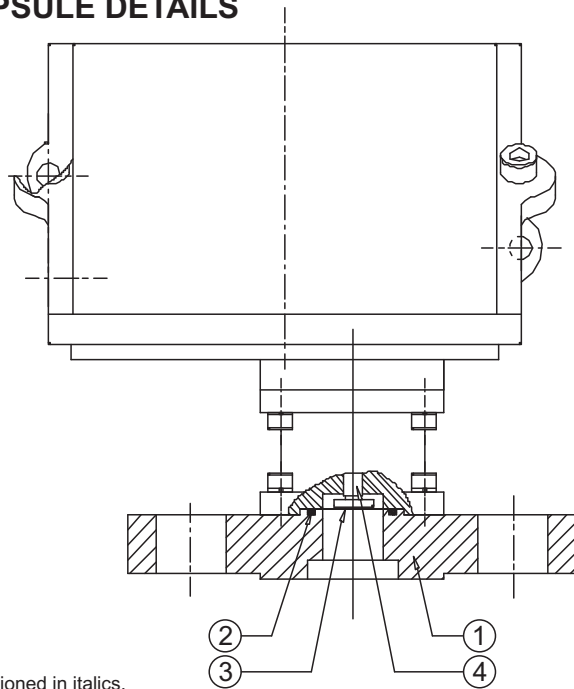
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PRESSURE CAPSULE DETAILS

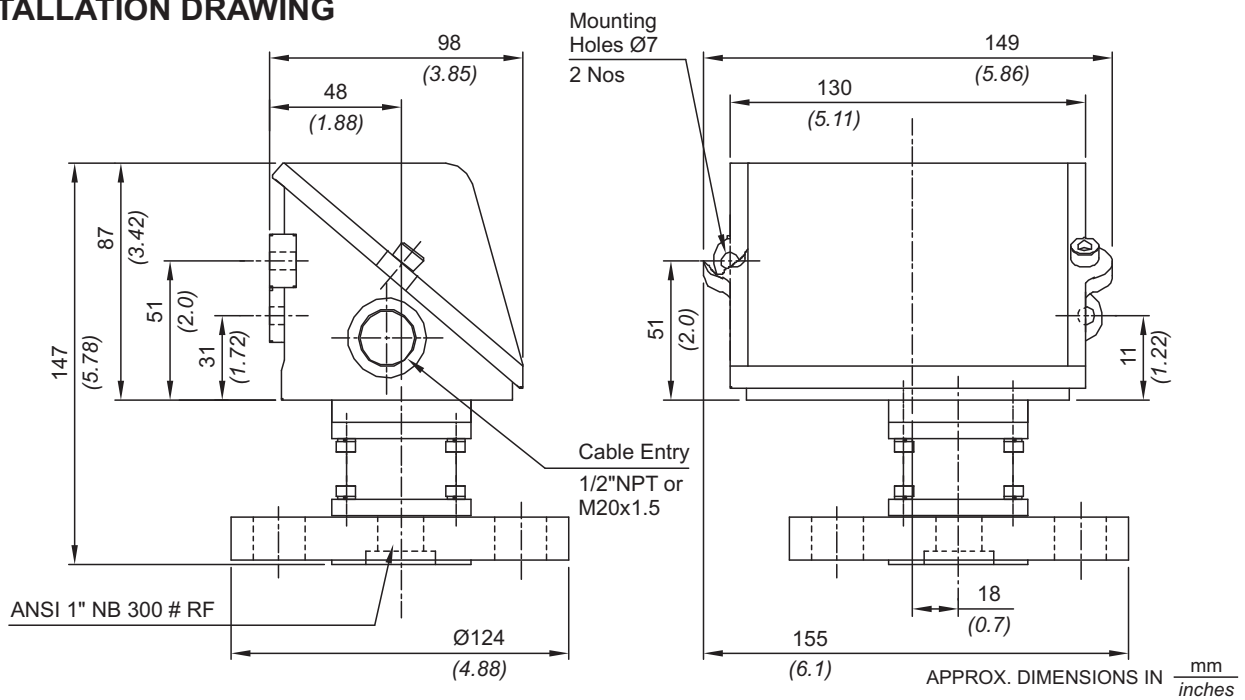


No. Description

1. ANSI 300 RF Flange (SS316)
2. O-Ring (Teflon®)
3. Diaphragm
4. Conical Plunger

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.45)	As per the class of flange Please consult Sales Office in case you need clarification on availability of maximum working pressure for a particular range.
H02	0.1 - 1.5 (1.45 - 21.76)	0.12 (1.74)	
H03	0.2 - 2.6 (2.90 - 37.71)	0.15 (2.17)	
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.90)	
H07	0.5 - 7.0 (7.25 - 101.50)	0.40 (5.80)	
H10	0.5 - 10.0 (7.25 - 145.04)	0.40 (5.80)	
H15	1.0 - 15.0 (14.50 - 217.56)	0.80 (11.60)	
H30	5.0 - 25.0 (72.52 - 362.6)	0.80 (11.60)	
H4T	5 - 40 (72.52 - 580.15)	5 (72.52)	
H1H	10 - 100 (145.04 - 1450.38)	12 (174.05)	
H2H	7 - 200 (101.53 - 2900.76)	24 (348.09)	

* Minimum differential increases with setpoint (Graphs available on request)

* Differentials of microswitches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 microswitch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

FLANGE CODE TABLE

	SS316L		Hastelloy C276		Monel		Titanium		Tantalum	
	RF*	FF*	RF*	FF*	RF*	FF*	RF*	FF*	RF*	FF*
150 #										
1" NB	AC	BS	DI	EY	GO	IE	JU	LK	NA	OQ
2" NB	AF	BV	DL	FB	GR	IH	JX	LN	ND	OT
300#										
1" NB	AI	BY	DO	FE	GU	IK	KA	LQ	NG	OW
2" NB	AL	CB	DR	FH	GX	IN	KD	LT	NJ	OZ
2500#										
1" NB	BM	DC	ES	GI	HY	JO	LE	MU	OK	QA
2" NB	BP	DF	EV	GL	IB	JR	LH	MX	ON	QD

*RF = Raised Face

*FF = Flat Face

RANGE AVAILABILITY AS PER BORE SIZES

	H01 to H04	H07	H10	H15	H30	H2T to H2H
1" NB	NA	Yes	Yes	Yes	Yes	Yes
2" NB	Yes	Yes	Yes	Yes	Yes	Yes

HOW TO ORDER INDUSTRIAL FLANGED PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<p>Non standard allocation</p> <p><input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.</p>	<p>Model</p> <p>MT = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147</p>	<p>Cable Entry Size</p> <p>1 = 1/2" NPT threads 2 = 3/4" NPT threads 3 = M20 X 1.5 threads</p>	<p>Switch Type ANSI flanged</p> <p>AF1 = pressure switch, fixed differential without scale AF2 = pressure switch, fixed differential with scale in bar AF3 = pressure switch, fixed differential with scale in psi AA1 = pressure switch, adjustable differential without scale AA2 = pressure switch, adjustable differential with scale in bar AA3 = pressure switch, adjustable differential with scale in psi *Available with A9 (in group 6) only</p>	<p>Range Code (values in bar)</p> <p>H01 = 0.1 - 1.0 H02 = 0.1 - 1.5 H03 = 0.2 - 2.6 H04 = 0.2 - 3.6 H07 = 0.5 - 7.0 H10 = 0.5 - 10.0 H15 = 1.0 - 15.0 H30 = 5.0 - 25.0 H4T = 5 - 40 H1H = 10 - 100 H2H = 7 - 200</p>	<p>Microswitch Type</p> <p>A1 = General purpose microswitch rated at 15 A; 250 VAC A2 = Hermetically sealed for corrosive environments A3 = gold plated contacts for low voltage applications A4 = DPDT configuration A5 = for high DC ratings A7 = 2SPDT switching elements A9 = General purpose microswitch rated at 5 A; 250 VAC</p> <p>Please refer page no. 230 for more microswitch options * Please refer note under Range Selection Table</p>	<p>Flange Size and Material</p> <p>Please select as per Flange Code Table</p> <p>For other classes and sizes please refer page no. 228 & 229</p>	<p>Diaphragm</p> <p>0 = Neoprene 1 = Teflon 2 = SS316L 3 = Hastelloy C 4 = Monel 400 5 = Titanium 6 = Tantalum</p>

eg. A high range Industrial/ANSI flanged pressure switch with 1/2" NPT cable entry with fixed differential without scale, having 0.1 bar to 1 bar pressure range, with 15-Amp. microswitch, and 2" 150# RF SS316L flange & SS316L diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MT	1	AF1	H01	A1	AF	2

Please specify full model number to avoid ambiguity.



PRESSURE SWITCHES
PRESSURE DIFFERENCE SWITCHES
VACUUM SWITCHES
From 1.5 mbar to 600 bar

MT Low Range High Proof Pressure Switches

CATALOGUE



Authorised Dealer



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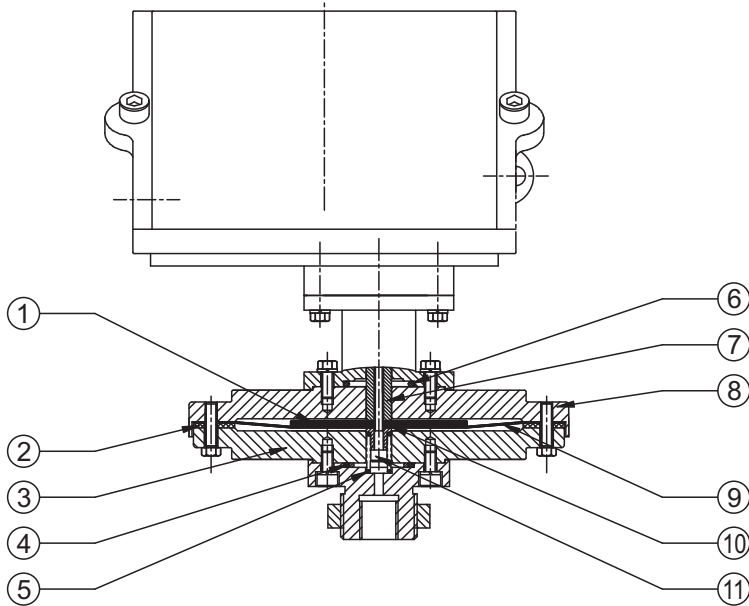
Web: <http://www.nkinstruments.com>

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PRESSURE CAPSULE DETAILS

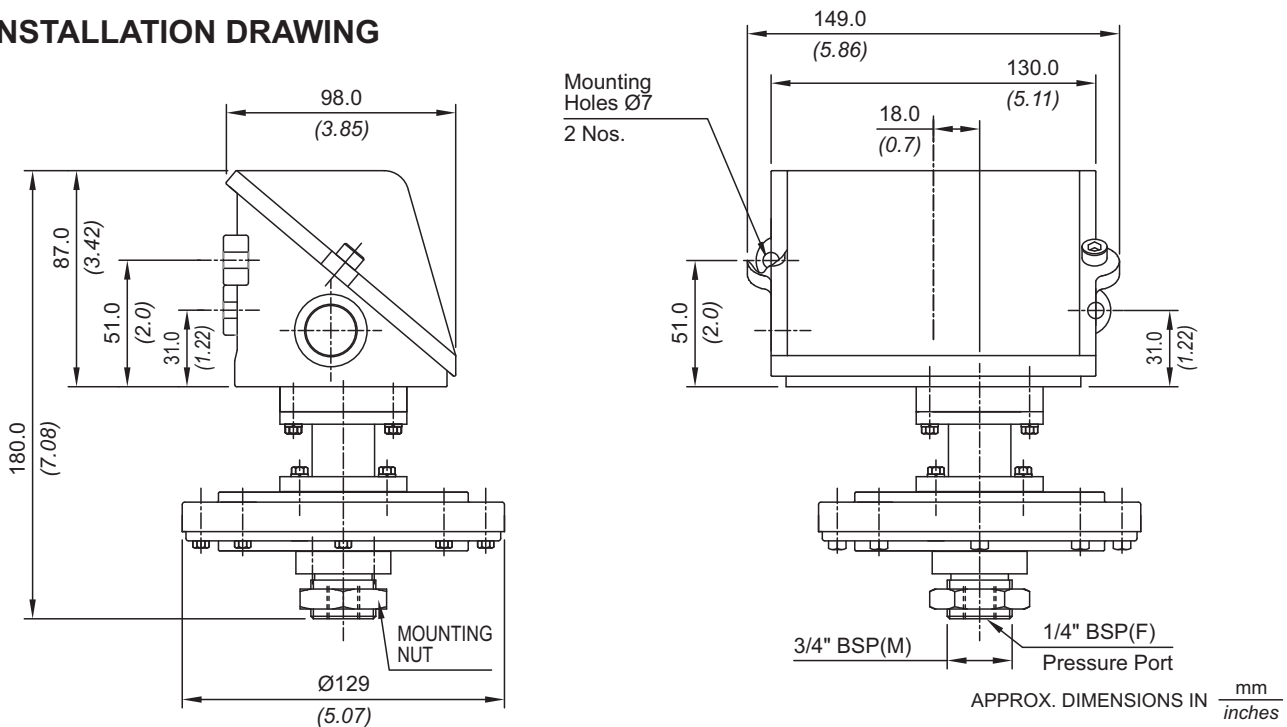


No. Description

1. Support plate (S.S.)
2. Gasket (Teflon)
3. Bottom flange (S.S.)
4. Sealing ring (Teflon)
5. Support spring (S.S.)
6. 'O' ring (Nitrile)
7. Transfer pin (S.S.)
8. Top flange (S.S.)
9. Diaphragm (Neoprene)
10. 'O' ring (Viton)
11. Clamping screw (C.S.)

Note : wetted parts are mentioned in italics.

INSTALLATION DRAWING



LOW RANGE HIGH PROOF PRESSURE SWITCHES

MT

RANGE SELECTION TABLE

Range Code	Range mbar ("wc)	Differential* mbar (" wc)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
N02	1.5 - 15 (0.602 - 6.02)	3 (1.204)	20 (290.076)
N03	5 - 25 (2.007 - 10.037)	5 (2.007)	20 (290.076)
N05	10 - 50 (4.015 - 20.073)	5 (2.007)	20 (290.076)
N10	10 - 100 (4.015 - 40.146)	10 (4.015)	20 (290.076)
N15	10 - 150 (4.015 - 60.22)	10 (4.015)	20 (290.076)
N25	20 - 250 (8.03 - 100.36)	15 (4.015)	20 (290.076)
N35	50 - 350 (20.073 - 140.51)	35 (14.05)	20 (290.076)

*Minimum differential increases with setpoint (Graphs available on request)

*** Note :**

Microswitches A2 through A9 can be supplied in some ranges and differentials will vary with microswitch used. Please contact sales office for details. Please check availability of adjustable differential with sales office.

HOW TO ORDER INDUSTRIAL LOW RANGE HIGH PROOF PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in mbar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MT = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS2147	1 = ½" NPT threads 3 = M20 X 1.5 threads	PF2 = pressure switch, fixed differential with scale in mbar PF3 = pressure switch, fixed differential with scale in "Wc PA2 = pressure switch, adjustable differential with scale in mbar PA3 = pressure switch, adjustable differential with scale in "Wc	N02 = (1.5 - 15) N03 = (5 - 25) N05 = (10 - 50) N10 = (10 - 100) N15 = (10 - 150) N25 = (20 - 250) N35 = (50 - 350)	A1 = General purpose microswitch rated at 15 A; 250 VAC *A2 = Hermetically sealed for corrosive environments *A3 = gold plated contacts for low voltage applications *A4 = DPDT configuration *A5 = for high DC ratings *A7 = 2SPDT switching elements *A9 = General purpose microswitch rated at 5 A; 250 VAC <small>* Please refer note under Range Selection Table</small>	S1 = SS316 / ¼" BSP(F) S2 = SS316 / ¼" NPT(F)	0 = Neoprene 1 = Teflon 2 = SS316L

eg. A low range high proof pressure switch, with ½" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 5 mbar to 25 mbar pressure range, with 15 Amp. microswitch, SS316 pressure housing with ¼" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MT	1	PF2	N03	A1	S1	0

Please specify full model number to avoid ambiguity.

WARRANTY :

Our products are warranted against defect in specified material and workmanship under specified normal service conditions for 12 months after being placed in service but not more than 18 months from the date of shipment, provided such items are returned free to our works at PUNE.

Company's liability in respect of defective parts is limited to making good by replacement, or repair defects, to be determined by the company. This is, provided the purchaser has given immediate written notice upon discovery of such defects, but within the time specified above. The replaced / repaired parts will be supplied exworks.

The company will be relieved of it's obligation if any arbitrary attempt to rectify has been undertaken by purchaser/user. This warranty does not cover normal wear and tear and damage due to corrosion or erosion.

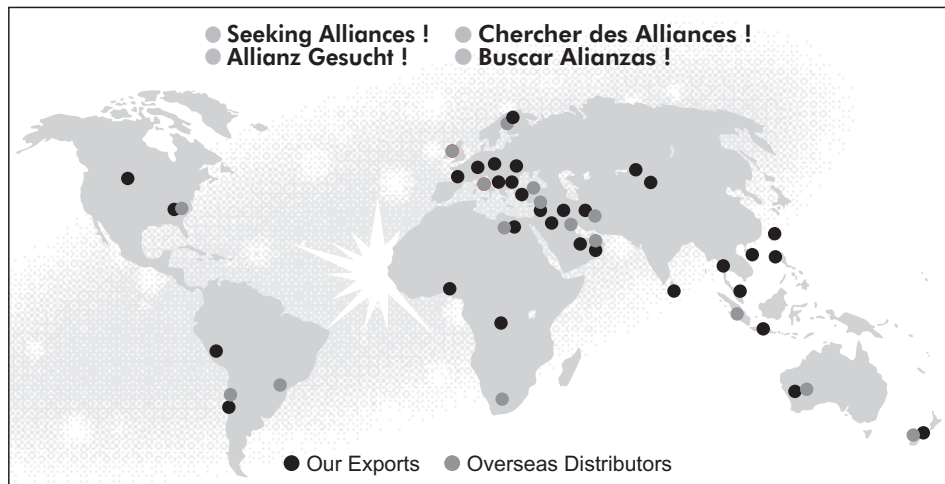
The company's liability is limited to making good the part or parts which are defective and excludes any and every other obligation for loss or damage, direct or consequential.

The foregoing is in lieu of all other expressed and implied warranties(except of title), including those of merchantability and fitness for a particular purpose.

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Your Local Representative

REPRESENTATIVES



Note : As efforts are made constantly to improve both design and method of manufacture, the apparatus supplied may differ in detail from illustration and data printed. Please check the specifications while ordering

Kaustubha Udyog (Orion Instruments)

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**PRESSURE SWITCHES
PRESSURE DIFFERENCE SWITCHES
VACUUM SWITCHES**
From 1.5 mbar to 600 bar

MT Low Range Pressure Switches

CATALOGUE



Authorised Dealer

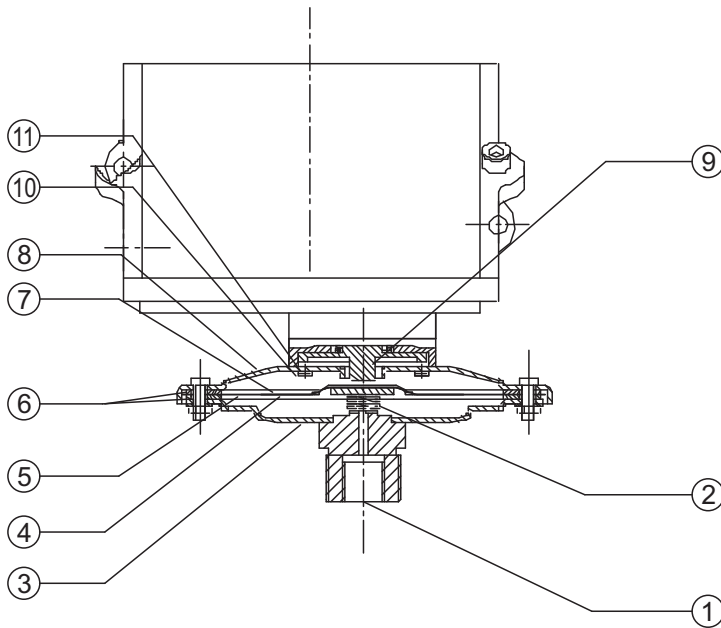


NK Instruments Pvt. Ltd.

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PRESSURE CAPSULE DETAILS



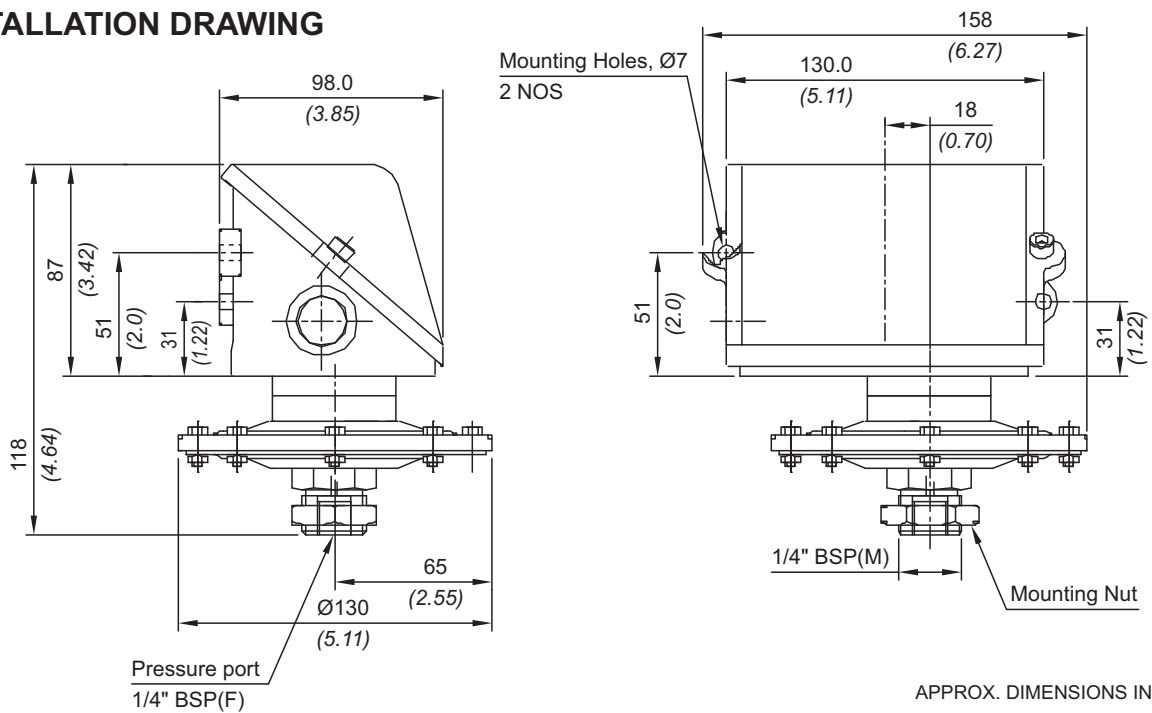
No. Description

1. Pressure port (S.S.)
2. Support spring (S.S.)
3. Bottom flange (S.S.)
4. Support plate (Aluminium)
5. Diaphragm (Neoprene)
6. Gasket (Teflon)
7. Top plate (Aluminium)
8. Top flange (S.S.)
9. Plunger
10. Top flange screw (S.S.)
11. Sealing 'O' ring (Nitrile)

Note : *wetted parts* are mentioned in italics.

*Pressure ports are brazed with flange

INSTALLATION DRAWING



LOW RANGE PRESSURE SWITCHES **MT**

RANGE SELECTION TABLE

Range Code	Range mbar ("wc)	Differential* mbar ("wc)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A1" microswitch	
L02	1.5 - 15.0 (0.602 - 6.021)	3 (1.204)	2 (29.00)
L03	5.0 - 25.0 (2.007 - 10.037)	5 (2.007)	2 (29.00)
L05	10.0 - 50.0 (4.015 - 20.073)	5 (2.007)	2 (29.00)
L10	10.0 - 100.0 (4.015 - 40.146)	10 (4.015)	2 (29.00)
L15	10.0 - 150.0 (4.015 - 60.22)	10 (4.015)	2 (29.00)
L25	20.0 - 250.0 (8.029 - 100.36)	15 (6.021)	2 (29.00)
L35	50.0 - 350.0 (20.073 - 140.52)	25 (10.036)	2 (29.00)

*Minimum differential increases with setpoint, values with neoprene diaphragm (Graphs available on request)

* Differentials of microswitches A2 through A9 will vary. Differentials for A7 are typically twice that for A1 microswitch. Please indicate specifically the differential value in enquiry/order, when it is critical in your application.

HOW TO ORDER INDUSTRIAL LOW RANGE PRESSURE SWITCHES

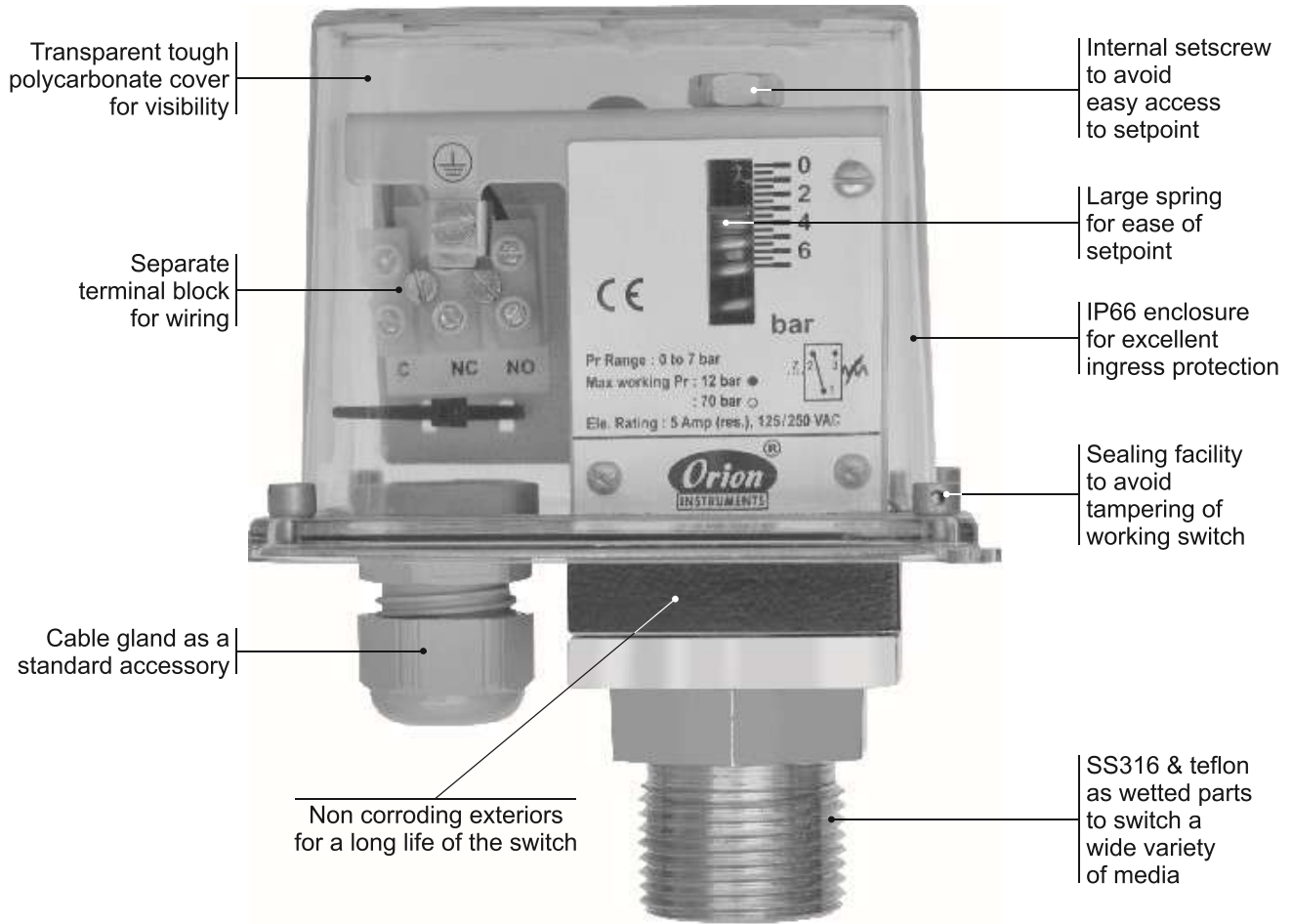
Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in mbar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MT = Industrial pressure switch with diecast Aluminium enclosure to IP66 as per IS/IEC 60529	1 = Al. head 1/2" NPT threads 3 = Al. head M20 X 1.5 threads	PF1 = pressure switch, fixed differential without scale PF2 = pressure switch, fixed differential with scale in mbar PF3 = pressure switch, fixed differential with scale in "wc *PA1 = pressure switch, adjustable differential without scale *PA2 = pressure switch, adjustable differential with scale in mbar *PA3 = pressure switch, adjustable differential with scale in "wc *Available with A9 (in group 6) only	L02 = (1.5 - 15) L03 = (5 - 25) L05 = (10 - 50) L10 = (10 - 100) L15 = (10 - 150) L25 = (20 - 250) L35 = (50 - 350)	A1 = General purpose microswitch rated at 15 A; 250 VAC *A2 = Hermetically sealed for corrosive environments *A3 = gold plated contacts for low voltage applications *A4 = DPDT configuration *A5 = for high DC ratings *A7 = 2SPDT switching elements *A9 = General purpose microswitch rated at 5 A; 250 VAC	M1 = M.S. powder coated / 1/4" BSP(F) M2 = M.S. powder coated / 1/4" NPT(F) S1 = SS316 / 1/4" BSP(F) S2 = SS316 / 1/4" NPT(F)	0 = Neoprene 1 = Teflon 2 = SS316L

eg. A low range weatherproof switch, with 1/2" NPT cable entry in aluminium housing as 1SPDT pressure switch, fixed differential without scale, having 5 mbar to 25 mbar pressure range, with 15 Amp. microswitch, SS316 pressure housing with 1/4" BSP port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MT	1	PF1	L03	A1	S1	0

Please specify full model number to avoid ambiguity.

MZ LARGE BORE HIGH RANGE PRESSURE SWITCHES

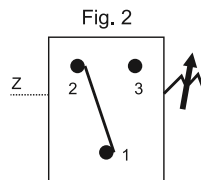


Approximate Weight : 0.900 Kg.

Some Applications :

Applications requiring a large bore, for slurries, sludges, etc.

Electrical Connection :

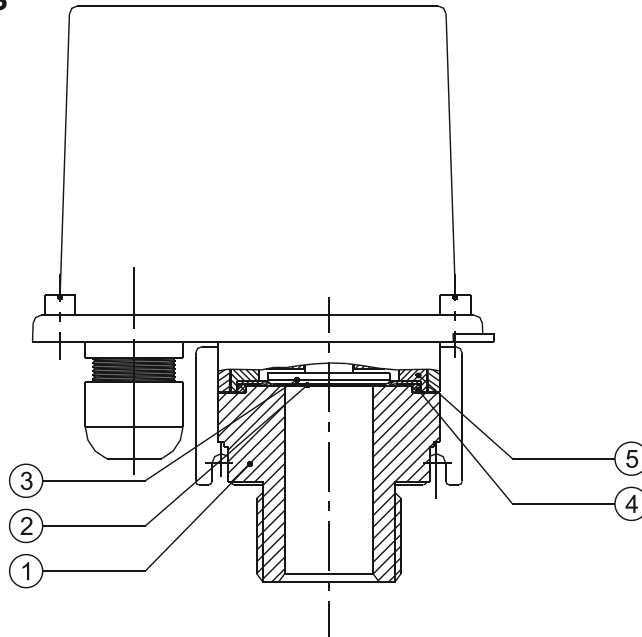




PRESSURE CAPSULE DETAILS

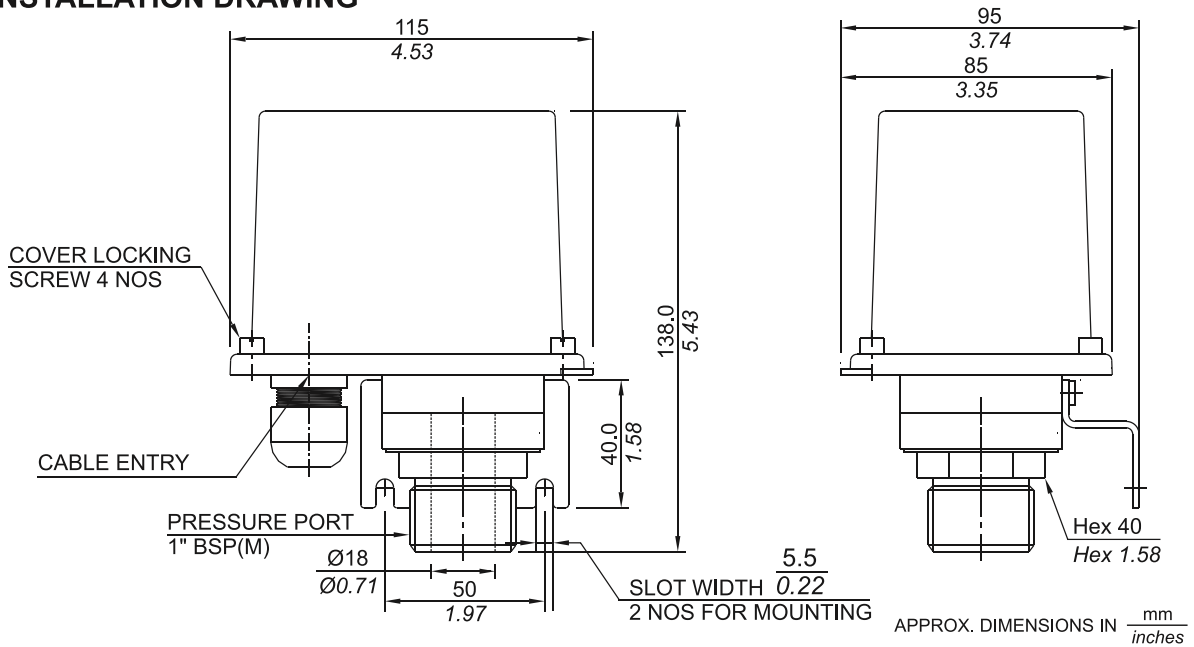
No. Description

1. *Pressure Port (SS316)*
2. *Diaphragm (Teflon®)*
3. *Plunger*
4. *O-Ring (Teflon®)*
5. *Disc*



Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



MZ LARGE BORE HIGH RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi)	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
H01	0.1 - 1.0 (1.45 - 14.50)	0.10 (1.43)	12 (171.43)
H02	0.1 - 1.5 (1.45 - 21.76)	0.20 (2.86)	12 (171.43)
H03	0.2 - 2.6 (2.90 - 37.71)	0.20 (2.86)	12 (171.43)
H04	0.2 - 3.6 (2.90 - 52.21)	0.20 (2.86)	12 (171.43)
H07	0.5 - 7.0 (7.25 - 101.50)	0.40 (5.72)	12 (171.43)
H10	0.5 - 10.0 (7.14 - 142.86)	0.60 (8.58)	25 (357.14)
H15	1.0 - 15.0 (14.29 - 214.29)	0.60 (8.58)	25 (357.14)
H30	5.0 - 25.0 (71.43 - 357.14)	0.80 (11.44)	35 (500.00)

*Minimum differential increases with setpoint (Graphs available on request), results for neoprene diaphragm.



Note: Welded diaphragm also available as shown

LARGE BORE HIGH RANGE PRESSURE SWITCHES



HOW TO ORDER PROCESS LARGE BORE HIGH RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Material / Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with tough transparent polycarbonate enclosure to IP66 as per IS2147	3 = M20 X 1.5 cable gland	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA2 = pressure switch, adjustable differential with scale in bar *PA3 = pressure switch, adjustable differential with scale in psi *Available only with option A9 in Group 6	H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6) H07 = (0.5 - 7.0) H10 = (0.5 - 10.0) H15 = (1.0 - 15.0) H30 = (5.0 - 25.0)	A8 = General purpose microswitch rated at 5 A; 250 VAC A7 = 2SPDT microswitches A9 = General purpose microswitch rated @ 5A, 250 VAC * Please refer note under Range Selection Table	S3 = SS316 / 1" BSP(M) N3 = Monel / 1" BSP(M)	0 = Neoprene 1 = Teflon 2 = SS 316L 4 = Monel

eg. A process pressure switch with fixed differential having 0.1 bar to 1 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with 1" BSPM port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MZ	3	PF2	H01	A8	S3	0

Please specify full model number to avoid ambiguity.

Authorised Dealer



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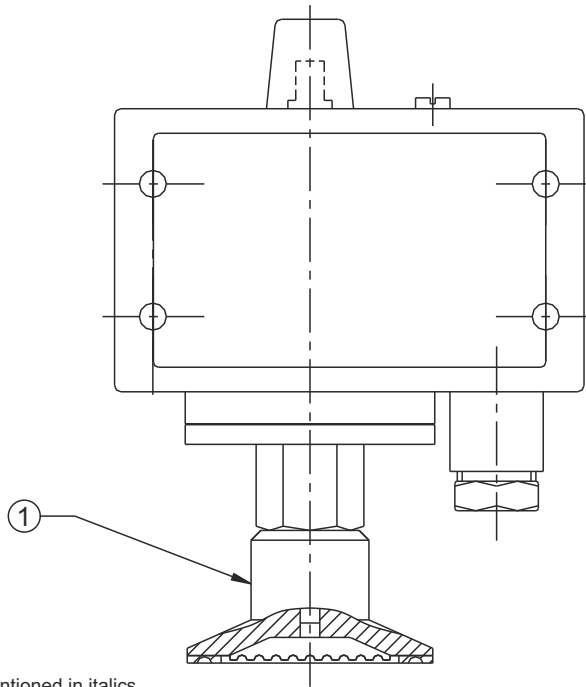
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 Web: http://www.nkinstruments.com
 Gtalk: nkinstruments2006



MG HIGH RANGE TRICLOVER PRESSURE SWITCHES



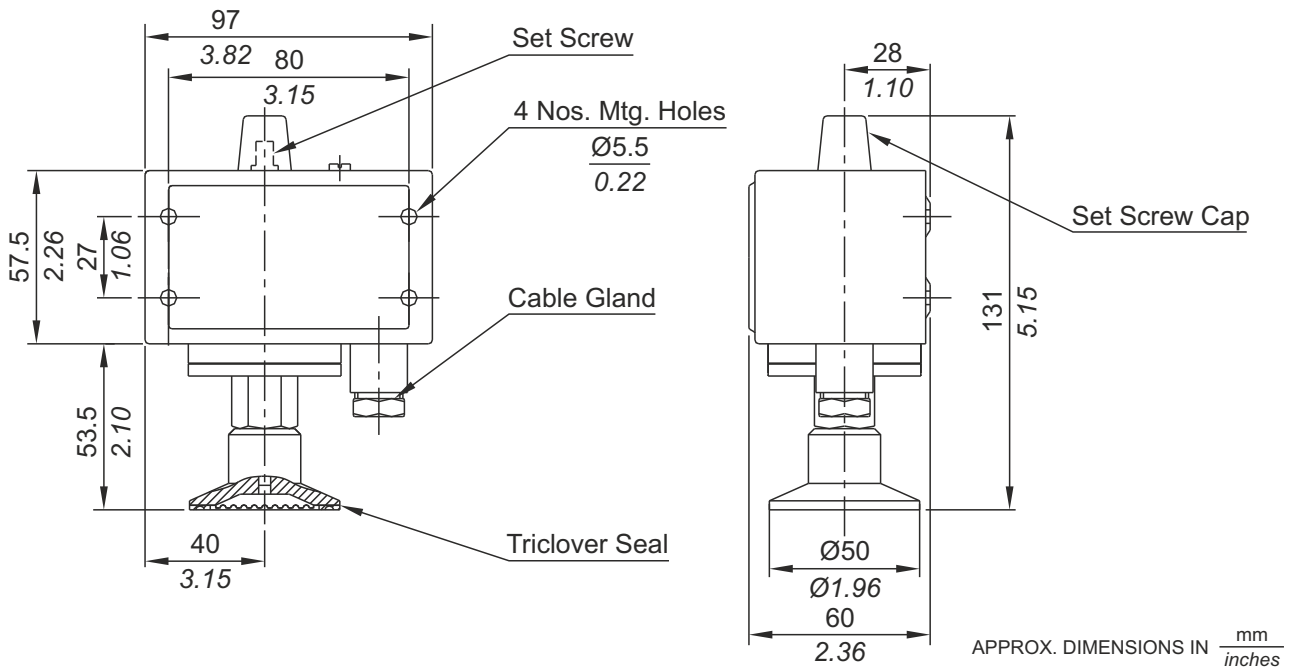
PRESSURE CAPSULE DETAILS



- No. Description**
 1. *Triclover seal (SS316L)*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING



HIGH RANGE TRICLOVER PRESSURE SWITCHES



General information:

MG series pressure switches are housed in pressed steel powder coated enclosure and are recommended for panel mounting or indoor service. The repeat accuracy is better than $\pm 1.5\%$ FSR. A 3/8" cable entry is provided for cables and a terminal strip suitable for wired ends is provided inside the enclosure. Pressure port is a triclover seal.

Features:

- ! Compact
- ! Electrical rating : 5A, 250 VAC; 0.2 A, 250VDC (res.)
- ! Pressure port: Triclover / 1/4" BSPF

Range Selection Table

Range Code	Range † bar (psi)	*Approximate Maximum Differential bar (psi)	Maximum Working Pressure bar (psi)
H03	0.2 - 2.6 (2.86 - 37.14)	0.20 (2.86)	12 (171.43)
H04	0.2 - 3.6 (2.86 - 51.43)	0.20 (2.86)	12 (171.43)
H07	0.5 - 7.0 (7.14 - 100.00)	0.40 (5.71)	12 (171.43)
H10	0.5 - 10.0 (7.14 - 142.86)	0.60 (8.57)	25 (357.14)
H15	1.0 - 15.0 (14.29 - 214.29)	0.60 (8.57)	25 (357.14)

*Minimum differential increases with setpoint (Graphs available on request)

† rising pressure for MG series

How to order MG series high range triclover pressure switches.

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Model	Range Code	Range Scale	Pressure Housing	Triclover Size	Enclosure
MG - Fixed Differential Triclover Pressure Switch	H-High range Pressure Switch	C-Without Knob K-With Knob	T-Triclover SS316L S - SS316L (1/4" BSPF Pressure port)	1 - No Triclover (Teflon diaphragm) B-1.5" OD C-2" OD	0-IP 40 as per IS 2147

eg. A fixed differential triclover pressure switch, high pressure range from 0.5 -7.0 bar with knob style with triclover pressure housing with 1 & 1/2" triclover size shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
MG	H07	K	T	B	0

Please specify full model number to avoid ambiguity. If only the first two groups are specified while ordering, calibrated switches with standard wetted parts will be supplied.

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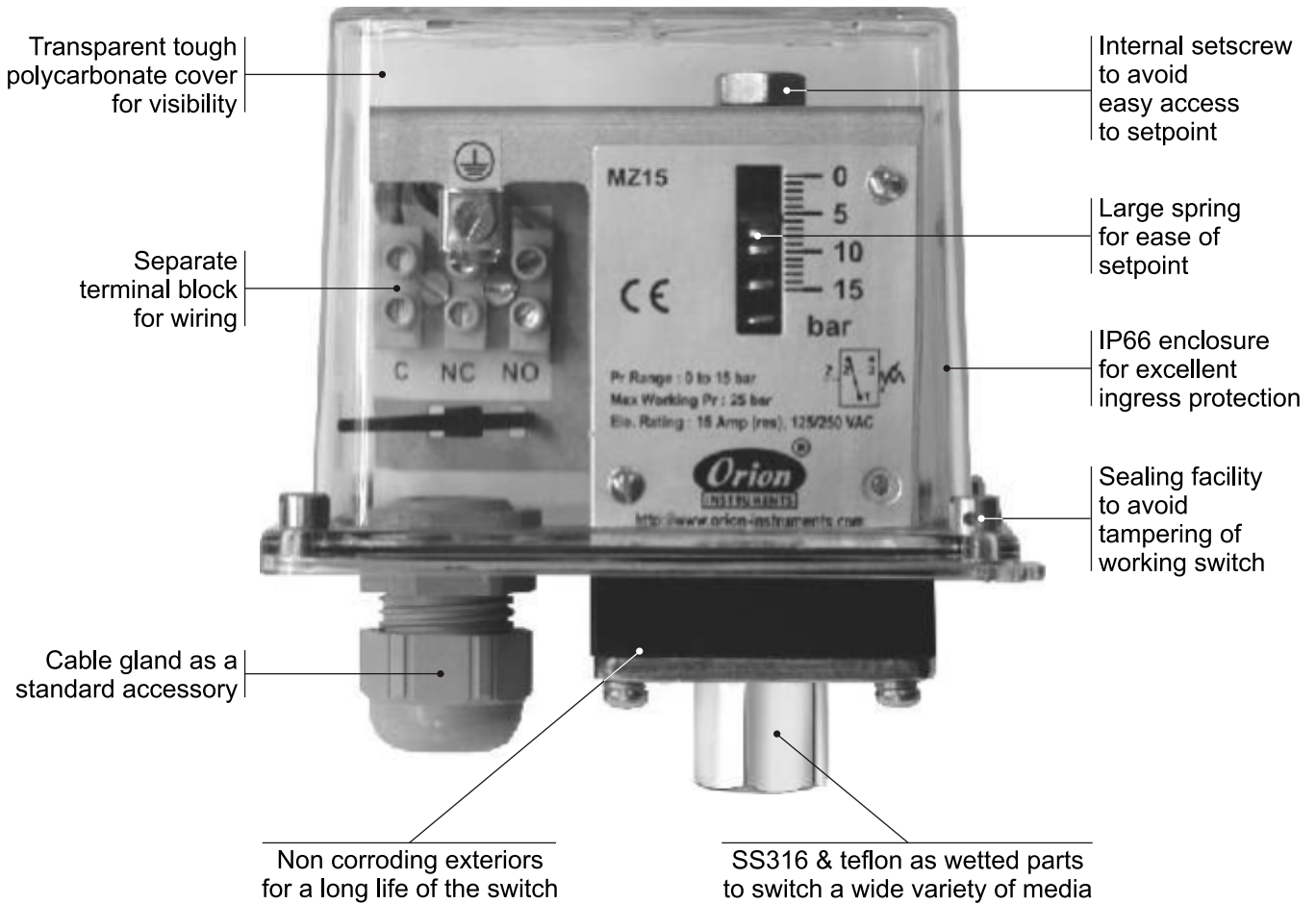


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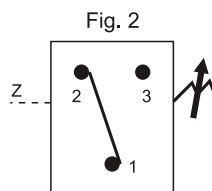


MZ HIGH RANGE PRESSURE SWITCHES



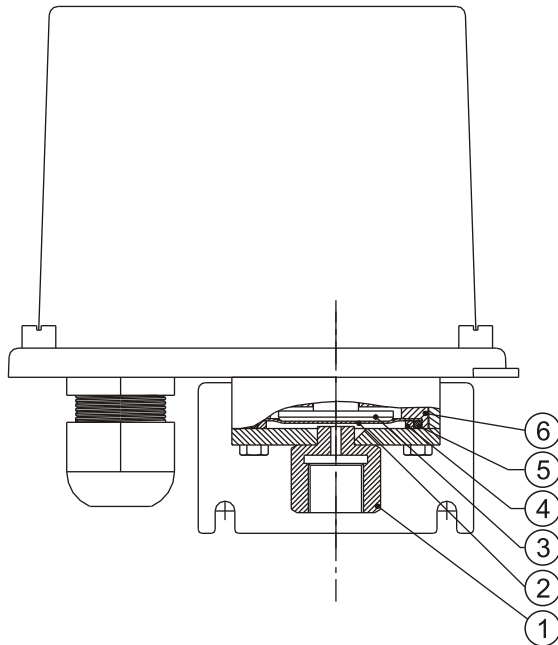
Approximate Weight : 0.550 Kg.

Electrical Connection :





PRESSURE CAPSULE DETAILS



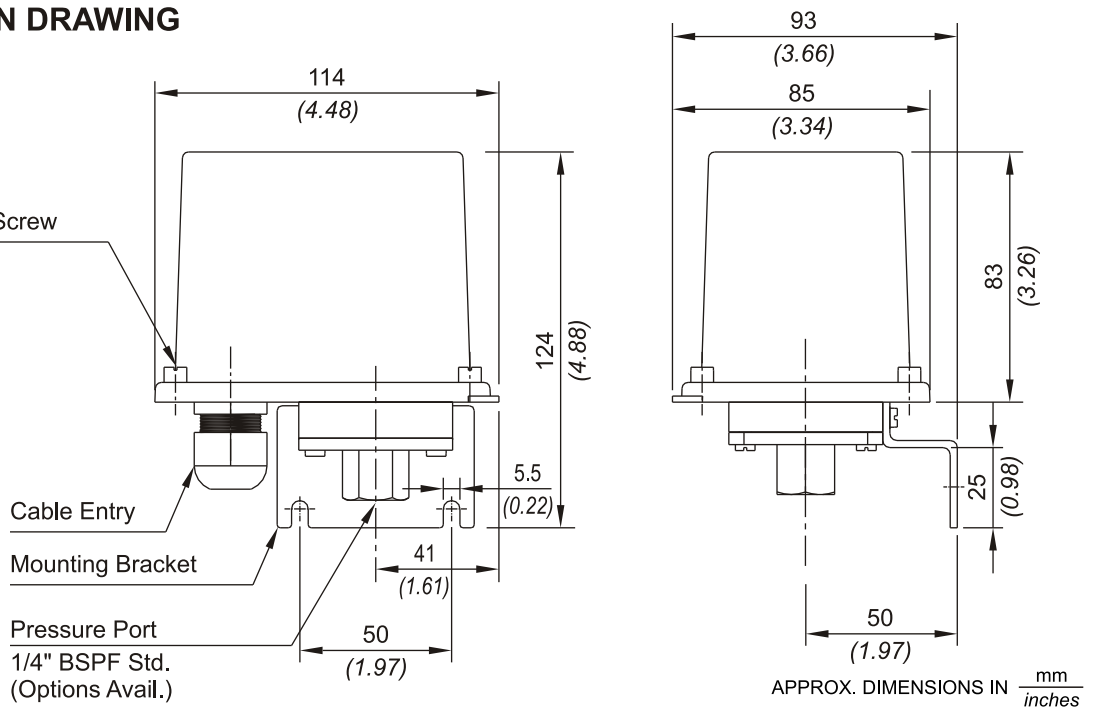
No. Description

1. *Pressure Housing (SS316)*
2. *Diaphragm (Teflon®)*
3. *Plunger*
4. *Steel Ring (SS316)*
5. *O-Ring (Teflon®)*
6. *Disc*

Note : *wetted parts* are mentioned in italics.

INSTALLATION DRAWING

Cover Locking Screw
4 Nos.



MZ HIGH RANGE PRESSURE SWITCHES

RANGE SELECTION TABLE

Range Code	Range bar (psi) <i>(0.97 - 3.09)</i>	Differential* bar (psi)	Maximum Working Pressure bar (psi)
		Approximate Maximum for "A8" microswitch	
LP†	0.1 - 0.5 <i>(1.45 - 7.25)</i>	0.05 <i>(0.71)</i>	5 <i>(71.43)</i>
LP5	0.1 - 1.0 <i>(1.45 - 14.50)</i>	0.10 <i>(1.43)</i>	5 <i>(71.43)</i>
H01	0.1 - 1.5 <i>(1.45 - 21.76)</i>	0.10 <i>(1.43)</i>	12 <i>(171.43)</i>
H02	0.2 - 2.6 <i>(2.90 - 37.71)</i>	0.20 <i>(2.86)</i>	12 <i>(171.43)</i>
H03	0.2 - 3.6 <i>(2.90 - 52.21)</i>	0.20 <i>(2.86)</i>	12 <i>(171.43)</i>
H04	0.5 - 7.0 <i>(7.25 - 101.50)</i>	0.20 <i>(2.86)</i>	12 <i>(171.43)</i>
H07	0.5 - 10.0 <i>(7.14 - 142.86)</i>	0.40 <i>(5.72)</i>	12 <i>(171.43)</i>
H10	1.0 - 15.0 <i>(14.29 - 214.29)</i>	0.60 <i>(8.58)</i>	25 <i>(357.14)</i>
H15	5.0 - 25.0 <i>(71.43 - 357.14)</i>	0.60 <i>(8.58)</i>	25 <i>(357.14)</i>
H30		0.80 <i>(11.44)</i>	35 <i>(500.00)</i>

*Minimum differential increases with setpoint (Graphs available on request), results for neoprene diaphragm.

†Range not available in SS316 L diaphragm.

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Skype: nitinkelkarskype Gtalk: nkstruments2006



HOW TO ORDER PROCESS HIGH RANGE PRESSURE SWITCHES

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Non standard allocation	Model	Cable Entry Size	Switch Type	Range Code (values in bar)	Microswitch Type	Pressure Port Size	Diaphragm
<input type="checkbox"/> Reserved for non-standard options not covered in catalogue. Will be given by manufacturer, only after agreement of supply details with customer.	MZ = Process pressure switch with tough transparent polycarbonate enclosure to IP66 as per IS2147	3 = M20 X 1.5 cable gland	PF2 = pressure switch, fixed differential with scale in bar PF3 = pressure switch, fixed differential with scale in psi *PA2 = pressure switch, adjustable differential with scale *PA3 = pressure switch, adjustable differential with scale in psi *Available only with option A9 in Group 6	LP = (0.067 - 0.213) LP5 = (0.1 - 0.5) H01 = (0.1 - 1.0) H02 = (0.1 - 1.5) H03 = (0.2 - 2.6) H04 = (0.2 - 3.6) H07 = (0.5 - 7.0) H10 = (0.5 - 10.0) H15 = (1.0 - 15.0) H30 = (5.0 - 25.0)	A8 = General purpose microswitch rated at 5 A; 250 VAC A7 = 2SPDT microswitches A9 = General purpose microswitch rated @ 5A, 250 VAC	S1 = SS316 pr. Housing with 1/4" BSPF pressure port S2 = SS316 pressure housing with 1/4" NPT(F) pressure port.	0 = Neoprene 1 = Teflon 2 = SS 316L

eg. A process pressure switch with fixed differential having 0.1 bar to 1 bar pressure range, with 5 Amp. microswitch, SS316 pressure housing with 1/4" BSPF port size & neoprene diaphragm shall be specified by

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
<input type="checkbox"/>	MZ	3	PF2	H01	A8	S1	0

Please specify full model number to avoid ambiguity.

Authorised Dealer



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