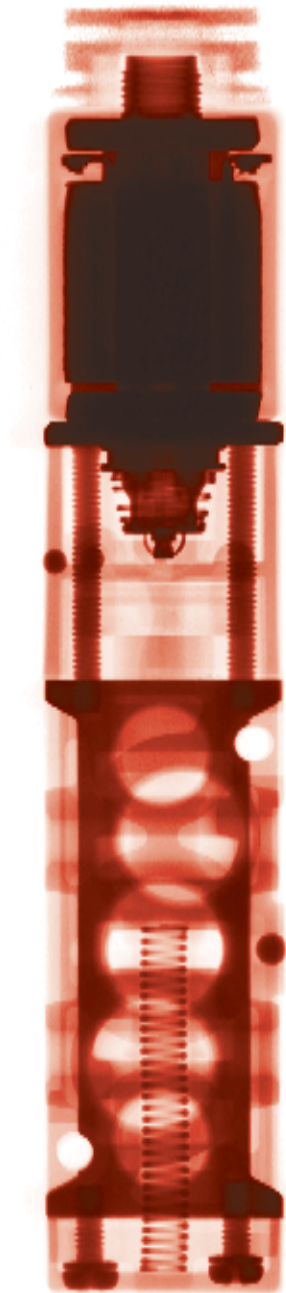
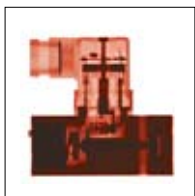
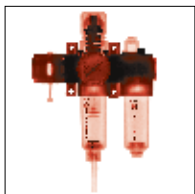


ENGINEERING ADVANTAGE



- » Norgren's most popular and proven ranges
- » World class service and technical support
- » Simplified selection



**NORGREN ESSENTIALS
PRICE LIST 2008**



NORGREN ESSENTIALS

'Norgren essentials' product range highlights Norgren's view of most commonly used products for various motion and flow control applications. Please contact Norgren India to request the complete product catalogue, commonly known as Norgren Yearbook.

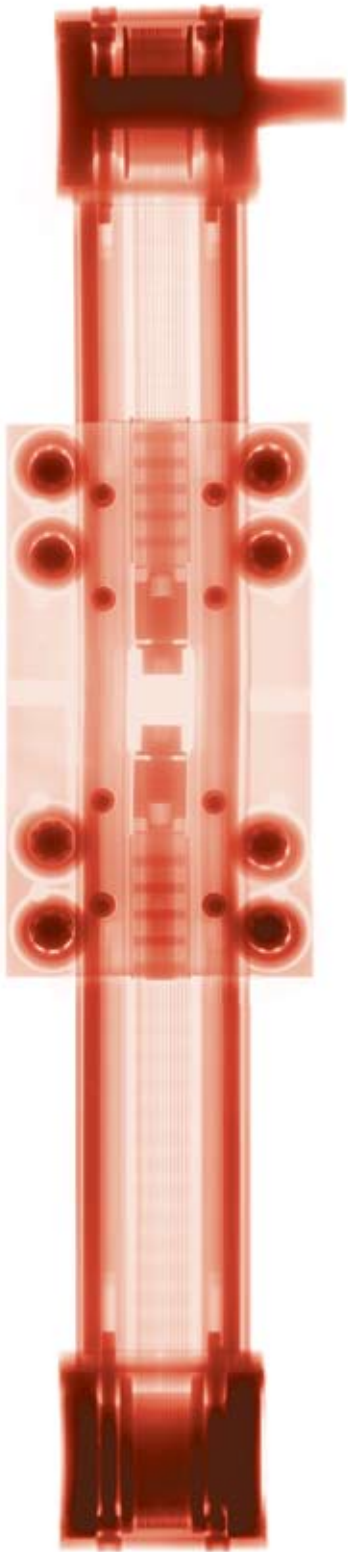
Prices may be subject to changes after publication.

ABOUT NORGREN INDIA

With 6 offices throughout the country, Norgren India is able to offer real local technical expertise and products fast. With a desire for continuous customer service improvement and an exciting new product development program, Norgren India is focused on supporting you with expert technical support and a level of service you expect and deserve.

Supported by our global product and service capabilities and by Norgren's £1.6bn parent company IMI, Norgren India is the perfect local partner. Please contact your local office to understand how Norgren can make all the difference to your business.

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Air line equipment

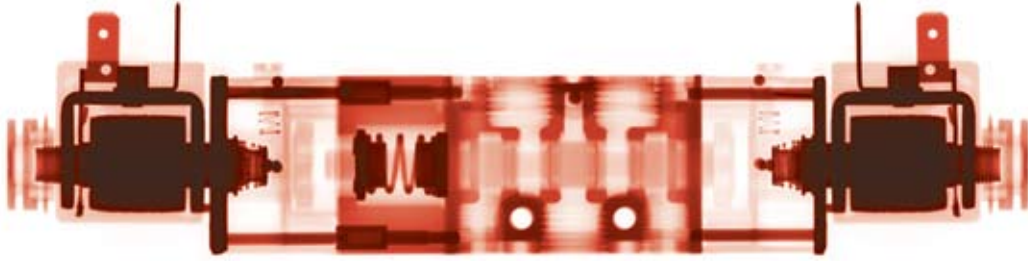
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Fittings, tubing and accessories

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GET THE NORGREN **ADVANTAGE**

POPULAR RANGE OF PROVEN PRODUCTS ...

Whether you're working on the specification for your next project, or just need to find a replacement part fast - look no further than Norgren.

We've brought together in this catalogue our most popular ranges of proven and successful products.

Thousands of companies of all sizes, from all industries across the world rely on these products every day to work efficiently and reliably, and to optimise the performance of their machines.

So when you choose Norgren, you know you're going to get the competitive advantage that you need.

>>



Roundline cylinders

(including cylinders conforming to Standard ISO 6432)

RM/8000/M 
 ISO 6432
 Ø 10 ... 25 mm



Page 1

RT/57200/M 
 ISO 6432
 Ø 10 ... 25 mm



Page 2

Profile cylinders

Tie-rod cylinders

(all conforming to Standards ISO 6431 VDMA 24562 NFE 49 003-1)

PRA/182000,..../M 
 ISO, VDMA, NFE
 Ø 32 ... 125 mm



Page 3

RA/8000,..../M 
 ISO, VDMA, NFE
 Ø 32 ... 320 mm



Page 5

RA/192000/M 
 ISO 21287
 Ø 20 ... 125 mm



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LINTRA®

Pneumatic rodless cylinders

M/46000, .../M, M/46100
 Internal and external guided
 Ø 16 to 80 mm



Page 10

M/146000, M/146100
 Internal and external guided
 Ø 16 to 80 mm



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Special products

PM/31000 
 Compact air bellows
 Ø 2¾ ... 12 inch




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M/31000 
 Air bellows, serviceable
 Ø 6 ... 26 inch



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 Single acting

 Double acting

Valves

VM10 Series



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ISO★STAR

Sub-base
5/2 & 5/3, ISO #1 to ISO #3



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V60 - 63 Series

Solenoid and pilot actuated
3/2, 5/2, 5/3



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V51 series

3/2, 5/2 and 5/3 valves



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Super X

In-line
3/2, 5/2, G1/8, G1/4



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VP10 Series

Proportional pressure
control valve
G1/4



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VP12

Miniature proportional valve
G1/8



Page 36

VP50 Series

Proportional pressure
control valve
G1/4



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Buschjost 82400 Series

8 to 50 mm orifice (ND)
2/2, NC, G1/8 to G2



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Buschjost 84500 / 84520 Series

15 to 50 mm orifice (ND)
2/2, G1/8 to G2



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XSz Safety valves

3/2, G1/4 to G2



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XSz Silencer

Flange



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Valves

T1000 Series
Uni-directional
M5, 1/8" to 1/2" BSPP



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T70 Series
1/8 to 1/2" BSPP



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18 D Series
0,2 to 30 bar



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Air line equipment

Boxed sets
Filter/regulators and lubricators
G1/4 to G1/2



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General purpose filters
F72G, F73G, F74G
G1/4 to G3/4



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Filter/regulators
B72G, B73G, B74G
G1/4 to G3/4



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Pressure regulators
R72G, R73G, R74G
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Lubricators
L72, L73, L74
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Filter/regulators and lubricators
P1H
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Ported general purpose filters
F07
G1/8, G1/4



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Ported filter/regulators
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G1/8, G1/4



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Ported pressure regulators
R07
G1/8, G1/4



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Ported lubricators
L07
G1/8, G1/4



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11-818 precision pressure regulators
G1/4



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**Pneufit C
composite
fittings**

Metric
Ø 4 to 16 mm O/D tube



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BSP & Hose fittings
M5, 1/8" to 1" BSP



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Tubing

Tubing & hoses
Ø 4 to 14 mm O/D



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Accessories

Ball valves
60, 61 Series
Brass
1/8" to 4" BSP



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M/S & T45

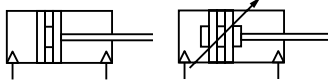


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ROUNDLINE CYLINDERS (ISO)

RM/8000/M

Double acting, ISO 6432
 Ø 10 to 25 mm



- Magnetic piston as standard
- Conforms to ISO 6432
- High strength, double crimped end cap design
- Corrosion resistant
- Buffer or adjustable cushioning
- Nose mounting nut and piston rod locknut as standard

STANDARD MODELS

Ø*	Piston rod Ø	Port size	Stroke size(mm)	Model side port, integral eye mounting**	Unit Price (Rs)
10	4	M 5	25	RM/8010/M/25	1215
10	4	M 5	50	RM/8010/M/50	1225
12	6	M 5	25	RM/8012/M/25	1235
12	6	M 5	50	RM/8012/M/50	1245
16	6	M 5	25	RM/8016/M/25	1290
16	6	M 5	50	RM/8016/M/50	1310
16	6	M 5	80	RM/8016/M/80	1330
20	8	G 1/8	25	RM/8020/M/25	1440
20	8	G 1/8	50	RM/8020/M/50	1470
20	8	G 1/8	80	RM/8020/M/80	1490
20	8	G 1/8	100	RM/8020/M/100	1510
25	10	G 1/8	25	RM/8025/M/25	1500
25	10	G 1/8	50	RM/8025/M/50	1530
25	10	G 1/8	80	RM/8025/M/80	1560
25	10	G 1/8	100	RM/8025/M/100	1590

** Models with adjustable cushioning available on request
 Service kits are not available for these cylinders.

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

Double acting, magnetic piston with buffer or adjustable cushioning

Operating pressure:

1 to 10 bar

Operating temperature:

-10°C to +80°C max.

Consult our Technical Service for use below +2°C

SWITCHES



Type	Cable Length (m)	Model	Unit Price (Rs)
Reed	2	M/50/LSU/2V	1370
Reed	5	M/50/LSU/5V	1610
Solid State	2	M/50/EAP/2V	3170
Solid State	5	M/50/EAP/5V	3390

MOUNTINGS

C		F		UF		N		Switch mounting brackets # 1/2 15 mm stroke		Switch mounting brackets # < 15 mm stroke		
Ø	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)
10	M/P19369	85	QM/8010/25	100	M/P1501/90	45	QM/8010/32	320	QM/33/010/22	80	QM/33/010/23	125
12	M/P19389	125	QM/8012/25	100	M/P13834	60	QM/8012/32	340	QM/33/012/22	85	QM/33/012/23	125
16	M/P19389	125	QM/8012/25	100	M/P13834	60	QM/8012/32	340	QM/33/016/22	90	QM/33/016/23	130
20	M/P19406	230	QM/8020/25	110	M/P13615	70	QM/8020/32	415	QM/33/020/22	95	QM/33/020/23	135
25	M/P19406	230	QM/8025/25	110	M/P13615	70	QM/8025/32	415	QM/33/025/22	100	QM/33/025/23	140

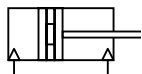
For use with switches M/50.

* Insert standard stroke length: Ø 12 mm: 50, 100, 160, 200 and 250 mm; Ø 16 to 25 mm: 50, 100, 160, 200, 250, 320, 400 and 500 mm
 Other stroke length are not available, use nearest standard stroke.

ROUNDLINE CYLINDERS

RT/57200

Double acting
 Ø 8 to 63 mm



One fifth shorter than the basic length of a corresponding ISO/VDMA cylinder

- Low friction, long life seals
- High strength, double crimped end cap design
- Standard magnetic piston for full control system versatility
- Non-lube operation

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

Double acting, buffer cushioning

RT/57200/M

Side port, integral eye mounting (Ø 8 to 40 mm), fixing holes in the end cover (Ø 50 and 63 mm)

RT/57200/MC

Central rear port (Ø 16 to 25 mm)

RT/57200/MF

Flat rear cover (Ø 8 to 32 mm)

Operating pressure:

1 to 10 bar

Operating temperature:

-10°C to +80°C

Consult our Technical Service for use below +2°C

STANDARD MODELS

Ø*	Piston Rod Ø	Port Size	Stroke size (mm)	Model side port, integral eye mounting**	Unit Price (Rs)
8	3	M 3	10	RT/57208/M/10	1055
8	3	M 3	25	RT/57208/M/25	1100
8	3	M 3	40	RT/57208/M/40	1105
8	3	M 3	50	RT/57208/M/50	1110
8	3	M 3	80	RT/57208/M/80	1120
10	4	M 5	10	RT/57210/M/10	1170
10	4	M 5	25	RT/57210/M/25	1180
10	4	M 5	40	RT/57210/M/40	1185
10	4	M 5	50	RT/57210/M/50	1190
10	4	M 5	80	RT/57210/M/80	1200
12	4	M 5	10	RT/57212/M/10	1250
12	4	M 5	25	RT/57212/M/25	1255
12	4	M 5	40	RT/57212/M/40	1265
12	4	M 5	50	RT/57212/M/50	1270
12	4	M 5	80	RT/57212/M/80	1280
16	6	M 5	10	RT/57216/M/10	1250
16	7	M 6	25	RT/57216/M/25	1265
16	8	M 7	40	RT/57216/M/40	1280
16	9	M 8	50	RT/57216/M/50	1290
16	10	M 9	80	RT/57216/M/80	1315
20	8	Rc 1/8	10	RT/57220/M/10	1535
20	8	Rc 1/8	25	RT/57220/M/25	1545
20	8	Rc 1/8	40	RT/57220/M/40	1555
20	8	Rc 1/8	50	RT/57220/M/50	1565
20	8	Rc 1/8	80	RT/57220/M/80	1590
25	10	Rc 1/8	10	RT/57225/M/10	1455
25	10	Rc 1/8	25	RT/57225/M/25	1475
25	10	Rc 1/8	40	RT/57225/M/40	1490
25	10	Rc 1/8	50	RT/57225/M/50	1505
25	10	Rc 1/8	80	RT/57225/M/80	1545

Service kits are not available for these cylinders

*Other standard sizes (Ø25mm to Ø63mm) available on request

** Models with central rear port flat end and side port flat end available on request

SWITCHES

With integral cable



Type*	Cable Length (m)	Model	Unit Price (Rs)
Reed	2	M/50/LSU/2V	1370
Reed	5	M/50/LSU/5V	1610
Solid State	2	M/50/EAP/2V	3170
Solid State	5	M/50/EAP/5V	3390

* Model with plug-in cable available on request

Ø	C		F		N		UF		Switch Mounting Brackets 1/2 15mm stroke		Switch Mounting Brackets < 15mm stroke	
	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)
8	M/P71273/1		QM/57008/25	100	M/P71364	25	-	-	-	-	-	-
10	M/P71273/2		QM/8010/25	100	M/P71364	25	QM/8010/32	320	QM/33/010/22	80	QM/33/010/23	125
12	M/P71273/2		QM/8012/25	100	M/P71364	25	QM/8012/32	340	QM/33/012/22	85	QM/33/010/23	125
16	M/P19369	82	QM/8012/25	100	M/P1501/90	45	QM/8012/32	340	QM/33/016/22	90	QM/33/016/23	130
20	M/P19389	122	QM/8020/25	110	M/P13834	60	QM/8020/32	415	QM/33/020/22	95	QM/33/020/23	135
25	M/P40381		QM/8025/25	110	M/P13607	65	QM/8025/32	400	QM/33/025/22	100	QM/33/025/23	140

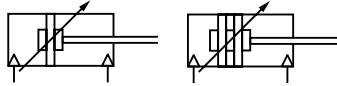
Actuators

ISO/VDMA PROFILE CYLINDERS

PRA/182000, PRA/182000/M

Double acting

Ø 32 to 125 mm



Conforms to ISO 6431, VDMA 24562 and NFE 49-003-1
Profile barrel with concealed tie rods
High performance, stability and reliability
Polyurethane seals ensure efficient low friction operation and long life
Switches can be mounted flush with the profile barrel

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

PRA/182000: Adjustable cushioning

PRA/182000/M: Magnetic piston, adjustable cushioning

Operating pressure:

1 to 16 bar

Operating temperature:

-20°C to +80°C max.

Consult our Technical Service for use below +2°C

STANDARD MODELS (MAGNETIC)

Ø	Piston rod Ø	Port size	Model (Magnetic) Standard	Zero Stroke Price	Per mm Incremental Price
32	12	G1/8	PRA/182032/M/*	1965	2
40	16	G1/4	PRA/182040/M/*	2185	2.45
50	20	G1/4	PRA/182050/M/*	2615	2.72
63	20	G3/8	PRA/182063/M/*	3215	3.46
80	25	G3/8	PRA/182080/M/*	1965	4.75
100	25	G1/2	PRA/182100/M/*	5475	5.74
125	32	G1/2	PRA/182125/M/*	10320	8.55

*Insert stroke length in mm

For combinations of cylinder variants consult our Technical Service.

STANDARD MODELS (NON MAGNETIC)

Ø	Piston rod Ø	Port size	Standard Model Non-Magnetic	Zero Stroke Price	Per mm Incremental Price
32	12	G1/8	PRA/182032/*	1860	2
40	16	G1/4	PRA/182040/*	2060	2.45
50	20	G1/4	PRA/182050/*	2480	2.72
63	20	G3/8	PRA/182063/*	3110	3.46
80	25	G3/8	PRA/182080/*	4060	4.75
100	25	G1/2	PRA/182100/*	5240	5.74
125	32	G1/2	PRA/182125/*	10000	8.55

* Insert stroke length in mm

Price calculation: zero stroke price + (per mm incremental price*stroke length)

Ex: PRA/182032/25: 1860 + (2*25) = 1910 INR

STANDARD STROKES

Ø	25	50	80	100	125	160	200	250	320	400	500
32	o	o	o	o	o	o	o	o	o	o	o
40	o	o	o	o	o	o	o	o	o	o	o
50	o	o	o	o	o	o	o	o	o	o	o
63	o	o	o	o	o	o	o	o	o	o	o
80	o	o	o	o	o	o	o	o	o	o	o
100	o	o	o	o	o	o	o	o	o	o	o
125	o	o	o	o	o	o	o	o	o	o	o

Other strokes available

SWITCHES







With integral cable








Type*	Cable Length (m)	Model	Unit Price (Rs)
Reed	2	M/50/LSU/2V	1370
Reed	5	M/50/LSU/5V	1610
Solid	2	StateM/50/EAP/2V	3170
Solid	5	StateM/50/EAP/5V	3390

* Model with plug-in cable available on request

MOUNTINGS

B, G			C		D		F		FH		L	
												
Ø	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)
32	QA/8032/22	350	QA/8032/21	190	QA/8032/23	530	-	-	QA/8032/34	550	QA/8032/24	995
40	QA/8040/22	370	QA/8040/21	205	QA/8040/23	560	QM/8040/25	150	QA/8040/34	780	QA/8040/24	1095
50	QA/8050/22	435	QA/8050/21	235	QA/8050/23	700	QM/8050/25	240	QA/8050/34	1010	QA/8050/24	1325
63	QA/8063/22	565	QA/8063/21	275	QA/8063/23	715	-	-	QA/8063/34	1620	QA/8063/24	1380
80	QA/8080/22	790	QA/8080/21	415	QA/8080/23	910	QM/8080/25	515	QA/8080/34	2745	QA/8080/24	1705
100	QA/8100/22	1025	QA/8100/21	495	QA/8100/23	1290	-	-	QA/8100/34	3170	QA/8100/24	2235
125	-	-	-	-	-	-	QM/8125/25	980	QA/8125/34	4180	QA/8125/24	3315

SW			UF		UH		Locking Unit (passive)		Groove Key	
										
Ø	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)
32	M/P19493	465	QM/8025/32	400	PQA/182032/40	1425	QA/8032/59	8535	M/P72816	110
40	M/P19494	535	QM/8040/32	535	PQA/182040/40	1700	QA/8040/59	9775	M/P72816	110
50	M/P19495	620	QM/8050/32	810	PQA/182050/40	1930	QA/8050/59	12565	M/P72816	110
63	M/P19496	660	-	-	PQA/182063/40	2255	QA/8063/59	16575	M/P72816	110
80	M/P19497	785	QM/8080/32	1200	PQA/182080/40	2750	QA/8080/59	20145	M/P72816	110
100	M/P19498	940	-	-	PQA/182100/40	3725	QA/8100/59	22525	M/P72816	110
125	M/P19499	1340	QM/8125/32	3775	PQA/182125/40	5100	QA/8125/59	47635	M/P72816	110

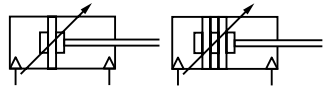
Actuators

ISO/VDMA CYLINDERS

RA/8000, RA/8000/M

Double acting

Ø 32 to 320 mm



Conforms to ISO 6431, VDMA 24562 and NFE 49-003-1
High performance, ruggedness and reliability
 Extensive range of mountings

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

RA/8000 double acting, adjustable cushioning

RA/8000/M double acting, magnetic piston, adjustable cushioning

Operating pressure:

1 to 16 bar (1 to 10 bar for Ø 250 and 320 mm)

Operating temperature:

-20°C to +80°C max.

Consult our Technical Service for use below +2°C

STANDARD MODELS (MAGNETIC)

Ø	Piston rod Ø	Port size	Magnetic	Zero Stroke Price	Per mm Incremental Price
32	12	G1/8	RA/8032/M/*	1815	2.0
40	16	G1/4	RA/8040/M/*	2140	2.3
50	20	G1/4	RA/8050/M/*	2415	3.3
63	20	G3/8	RA/8063/M/*	3150	3.4
80	25	G3/8	RA/8080/M/*	3960	4.7
100	25	G1/2	RA/8100/M/*	4910	5.5
125	32	G1/2	RA/8125/M/*	9510	10.3
160	40	G3/4	RA/8160/M/*	17065	17.6
200	40	G3/4	RA/8200/M/*	22115	25.1
250	50	G1	RA/8250/M/*	43335	47.9

* Insert stroke length in mm

Price calculation: zero stroke price + (per mm incremental price*stroke length)

Ex: PRA/182032/25: 1860 + (2*25) = 1910 INR

STANDARD MODELS (NON MAGNETIC)

Ø	Piston rod Ø	Port size	Standard Model Non-Magnetic	Zero Stroke Price	Per mm Incremental Price
32	12	G1/8	RA/8032/*	1710	2.0
40	16	G1/4	RA/8040/*	2015	2.3
50	20	G1/4	RA/8050/*	2280	3.3
63	20	G3/8	RA/8063/*	2995	3.4
80	25	G3/8	RA/8080/*	3775	4.7
100	25	G1/2	RA/8100/*	4680	5.5
125	32	G1/2	RA/8125/*	9190	10.3
160	40	G3/4	RA/8160/*	16030	17.6
200	40	G3/4	RA/8200/*	21035	25.1
250	50	G1	RA/8250/*	41325	47.9

* Insert stroke length in mm

Price calculation: zero stroke price + (per mm incremental price*stroke length)

Ex: PRA/182032/25: 1860 + (2*25) = 1910 INR

SWITCHES






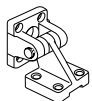
With integral cable








Type*	Cable Length (m)	Model	Unit Price (Rs)
Reed	2	M/50/LSU/2V	1370
Reed	5	M/50/LSU/5V	1610
Solid State	2	M/50/EAP/2V	3170
Solid State	5	M/50/EAP/5V	3390

* Model with plug-in cable available on request

MOUNTINGS

	B, G		C		D		F		FH		L	
												
Ø	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)
32	QA/8032/22	350	QA/8032/21	190	QA/8032/23	530 530	QM/8025/25	100 190	QA/8032/34	555 190	QA/8032/24	995 190
40	QA/8040/22	370	QA/8040/21	205	QA/8040/23	560 560	QM/8040/25	150 205	QA/8040/34	780 205	QA/8040/24	1095 205
50	QA/8050/22	435	QA/8050/21	235	QA/8050/23	700 700	QM/8050/25	240 235	QA/8050/34	1010 235	QA/8050/24	1325 235
63	QA/8063/22	565	QA/8063/21	275	QA/8063/23	715 715	QM/8050/25	240 275	QA/8063/34	1620 275	QA/8063/24	1380 275
80	QA/8080/22	790	QA/8080/21	415	QA/8080/23	910 910	QM/8080/25	515 415	QA/8080/34	2745 415	QA/8080/24	1705 415
100	QA/8100/22	1025	QA/8100/21	495	QA/8100/23	1290 1260	QM/8080/25	515 495	QA/8100/34	3170 495	QA/8100/24	2235 495
125	-	-	QA/8125/21	825	-	-	QM/8125/25	980	QA/8125/34	4180	QA/8125/24	3315

Ø	SW	UF	UH	Locking Unit	Switch Mounting Brackets ##					
										
Ø	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)
32	M/P19493	465	QM/8025/32	400	QA/8032/40	1465	QA/8032/59	8535	QM/31/032/22	370
40	M/P19494	535	QM/8040/32	535	QA/8040/40	1750	QA/8040/59	9775	QM/31/032/22	370
50	M/P19495	620	QM/8050/32	810	QA/8050/40	1990	QA/8050/59	12565	QM/31/032/22	370
63	M/P19496	660	QM/8050/32	810	QA/8063/40	2325	QA/8063/59	16575	QM/31/032/22	370
80	M/P19497	785	QM/8080/32	1200	QA/8080/40	2825	QA/8080/59	20145	QM/31/032/22	370
100	M/P19498	940	QM/8080/32	1200	QA/8100/40	3825	QA/8100/59	22525	QM/31/080/22	370
125	M/P19499	1340	QM/8125/32	3775	QA/8125/40	5240	QA/8125/59	47635	QM/31/080/22	370

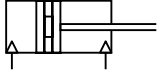
RA/192000/M

Compact cylinders

ISO 21287

Magnetic piston, double acting

Ø 20 to 125 mm



Conforms to ISO 21287

Magnetic piston as standard

Seals ensure low friction operation and long life

Switches can be mounted flush with the profile

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

RA/192000/M

Double acting, magnetic piston, male piston rod thread, buffer cushioning

RA/192000/MX

Double acting, magnetic piston, female piston rod thread, buffer cushioning

Operating pressure:

1 to 10 bar

Operating temperature:

-10°C to +80°C max.

Consult our Technical Service for use below +2°C

Ø*	Piston Rod Ø	Port Size	Stroke size (mm)	Model	Magnetic Piston	Unit Price (Rs)
32	12	G 1/8	5	RA/192032/M/5		1850
32	12	G 1/8	10	RA/192032/M/10		1890
32	12	G 1/8	15	RA/192032/M/15		1930
32	12	G 1/8	20	RA/192032/M/20		1970
32	12	G 1/8	25	RA/192032/M/25		2010
32	12	G 1/8	30	RA/192032/M/30		2050
32	12	G 1/8	40	RA/192032/M/40		2130
32	12	G 1/8	50	RA/192032/M/50		2210
32	12	G 1/8	60	RA/192032/M/60		2290
40	12	G 1/8	80	RA/192032/M/80		2450
40	16	G 1/8	5	RA/192040/M/5		2370
40	16	G 1/8	10	RA/192040/M/10		2420
40	16	G 1/8	15	RA/192040/M/15		2470
40	16	G 1/8	20	RA/192040/M/20		2520
40	16	G 1/8	25	RA/192040/M/25		2570
40	16	G 1/8	30	RA/192040/M/30		2620
40	16	G 1/8	40	RA/192040/M/40		2720
40	16	G 1/8	50	RA/192040/M/50		2820
40	16	G 1/8	60	RA/192040/M/60		2920
40	16	G 1/8	80	RA/192040/M/80		3120
50	20	G 1/8	10	RA/192050/M/10		2785
50	20	G 1/8	15	RA/192050/M/15		2845
50	20	G 1/8	20	RA/192050/M/20		2905
50	20	G 1/8	25	RA/192050/M/25		2965
50	20	G 1/8	30	RA/192050/M/30		3025
50	20	G 1/8	40	RA/192050/M/40		3145
50	20	G 1/8	50	RA/192050/M/50		3265
50	20	G 1/8	60	RA/192050/M/60		3385
50	20	G 1/8	80	RA/192050/M/80		3625
63	20	G 1/8	10	RA/192063/M/10		3650
63	20	G 1/8	15	RA/192063/M/15		3730
63	20	G 1/8	20	RA/192063/M/20		3810
63	20	G 1/8	25	RA/192063/M/25		3890
63	20	G 1/8	30	RA/192063/M/30		3970
63	20	G 1/8	40	RA/192063/M/40		4130
63	20	G 1/8	50	RA/192063/M/50		4290
63	20	G 1/8	60	RA/192063/M/60		4450
63	20	G 1/8	80	RA/192063/M/80		4770
80	25	G 1/8	15	RA/192080/M/15		4730
80	25	G 1/8	20	RA/192080/M/20		4830
80	25	G 1/8	25	RA/192080/M/25		4930
80	25	G 1/8	30	RA/192080/M/30		5030
80	25	G 1/8	40	RA/192080/M/40		5230
80	25	G 1/8	50	RA/192080/M/50		5430
80	25	G 1/8	60	RA/192080/M/60		5630
80	25	G 1/8	80	RA/192080/M/80		6030
100	25	G 1/8	15	RA/192100/M/15		5660
100	25	G 1/8	20	RA/192100/M/20		5790
100	25	G 1/8	25	RA/192100/M/25		5920
100	25	G 1/8	30	RA/192100/M/30		6050
100	25	G 1/8	40	RA/192100/M/40		6310
100	25	G 1/8	50	RA/192100/M/50		6570
100	25	G 1/8	60	RA/192100/M/60		6830
100	25	G 1/8	80	RA/192100/M/80		7350
125	32	G 1/8	15	RA/192125/M/15		12840
125	32	G 1/4	20	RA/192125/M/20		13010
125	32	G 1/4	25	RA/192125/M/25		13180
125	32	G 1/4	30	RA/192125/M/30		13350
125	32	G 1/4	40	RA/192125/M/40		13690
125	32	G 1/4	50	RA/192125/M/50		14030
125	32	G 1/4	60	RA/192125/M/60		14370
125	32	G 1/4	80	RA/192125/M/80		15050

STANDARD MODELS

Ø*	Piston Rod Ø	Port Size	Stroke size (mm)	Model	Magnetic Piston	Unit Price (Rs)
20	10	M5	5	RA/192020/M/5		1510
20	10	M5	10	RA/192020/M/10		1525
20	10	M5	15	RA/192020/M/15		1540
20	10	M5	20	RA/192020/M/20		1555
20	10	M5	25	RA/192020/M/25		1570
20	10	M5	30	RA/192020/M/30		1585
20	10	M5	40	RA/192020/M/40		1615
20	10	M5	50	RA/192020/M/50		1645
25	10	M5	5	RA/192025/M/5		1635
25	10	M5	10	RA/192025/M/10		1665
25	10	M5	15	RA/192025/M/15		1695
25	10	M5	20	RA/192025/M/20		1725
25	10	M5	25	RA/192025/M/25		1755
25	10	M5	30	RA/192025/M/30		1785
25	10	M5	40	RA/192025/M/40		1845
25	10	M5	50	RA/192025/M/50		1905

SWITCHES





With integral cable







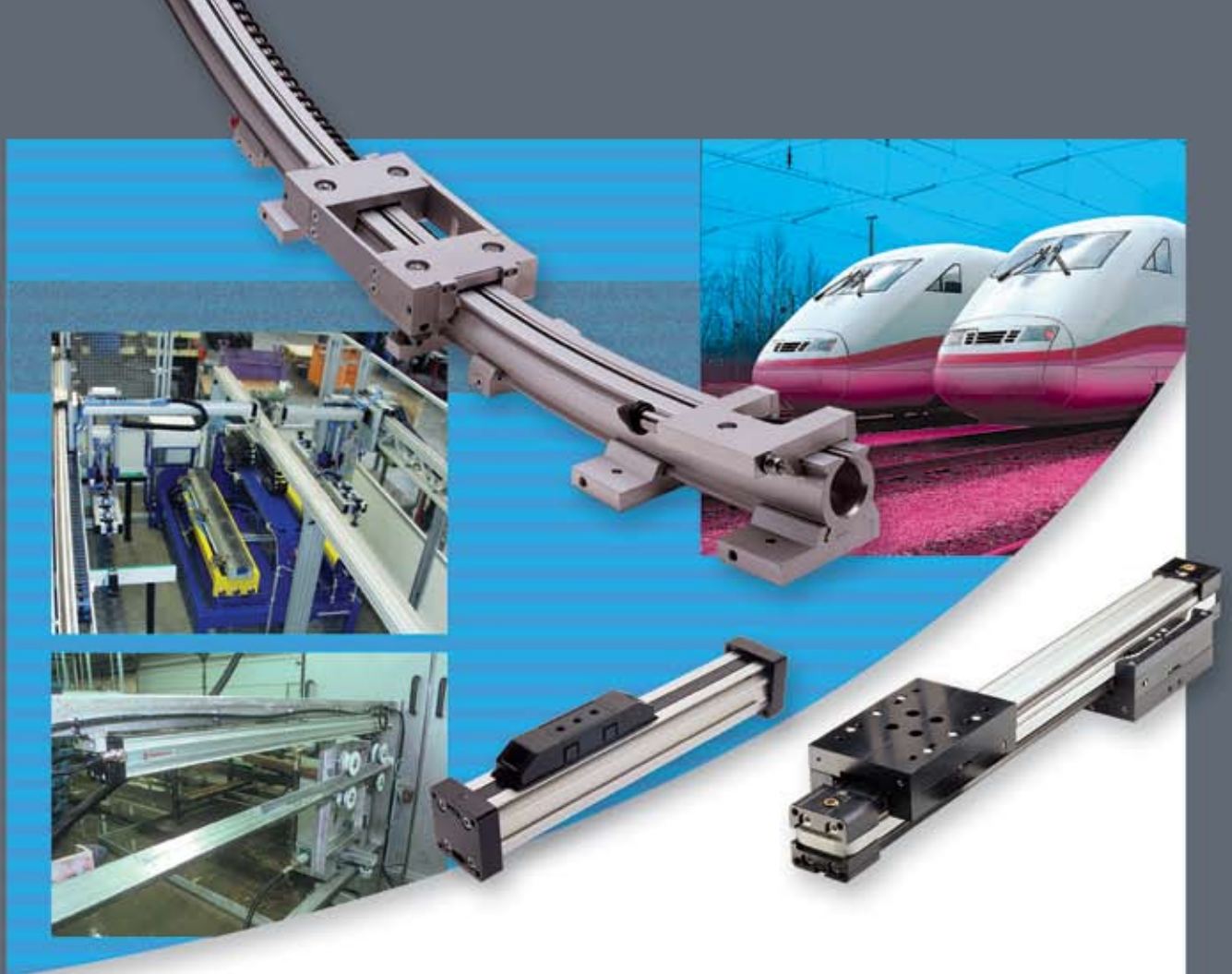
Type*	Cable Length (m)	Model	Unit Price (Rs)
Reed	2	M/50/LSU/2V	1370
Reed	5	M/50/LSU/5V	1610
Solid State	2	M/50/EAP/2V	3170
Solid State	5	M/50/EAP/5V	3390

* Model with plug-in cable available on request

MOUNTINGS

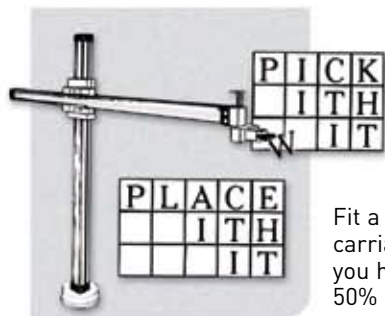
		B,G		C		D		F		FH	
											
Ø	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	
20	QA/192020/22	830	-	-	-	-	QM/8020/25	110	-	-	
25	QA/192025/22	830	-	-	-	-	QM/8020/25	110	-	-	
32	QA/8032/22	350	QA/8032/21	190	QA/8032/23	530	QM/8025/25	110	QA/8032/34	555	
40	QA/8040/22	370	QA/8040/21	205	QA/8040/23	560	QM/8025/25	110	QA/8040/34	780	
50	QA/8050/22	435	QA/8050/21	235	QA/8050/23	700	QM/8040/25	150	QA/8050/34	1010	
63	QA/8063/22	565	QA/8063/21	275	QA/8063/23	715	QM/8040/25	150	QA/8063/34	1620	
80	QA/8080/22	790	QA/8080/21	415	QA/8080/23	910	QM/8050/25	240	QA/8080/34	2745	
100	QA/8100/22	1025	QA/8100/21	495	QA/8100/23	1290	QM/8050/25	240	QA/8100/34	3170	
125	-	-	QA/8125/21	825	-	-	QM/8125/25	980	QA/8125/34	4180	

		SW		UF		UH		Groove Key	
									
Ø	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	Part Number	Unit Price (Rs)	
20	-	-	QM/8020/32	415	-	-	M/P72816	110	
25	-	-	QM/8020/32	415	-	-	M/P72816	110	
32	M/P19493	465	QM/8025/32	415	PQA/182032/40	1425	M/P72816	110	
40	M/P19494	535	QM/8025/32	415	PQA/182040/40	1700	M/P72816	110	
50	M/P19495	620	QM/8040/32	535	PQA/182050/40	1930	M/P72816	110	
63	M/P19496	660	QM/8040/32	535	PQA/182063/40	2255	M/P72816	110	
80	M/P19497	785	QM/8050/32	810	PQA/182080/40	2750	M/P72816	110	
100	M/P19498	940	QM/8050/32	810	PQA/182100/40	3725	M/P72816	110	
125	M/P19499	1340	QM/8125/32	3775	PQA/182125/40	5100	M/P72816	110	

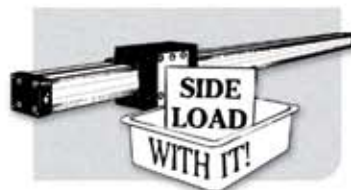


LINTRTRA proven technology

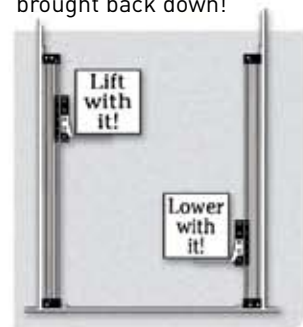
Start something with LINTRA rodless cylinders from Norgren. When your application requires movement, especially linear movement, think LINTRA. Consider the many possibilities available when you choose LINTRA. Shown here are some proven applications, discover your own.



Fit a LINTRA cylinder with a secondary carriage and side mounting plate. Not only do you have a new mounting configuration but a 50% increase in loading capability. The side mounting plate takes advantage of LINTRA's integrally guided carriage.



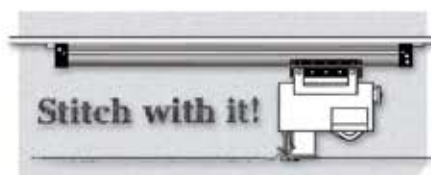
What goes up...can readily be brought back down!



Sturdy LINTRA cylinders bear the load without the need for external guiding.

Attach a shelf to the carriage of a vertical LINTRA cylinder and you have a lift ready for action. With stroke lengths up to 28 feet (see page 86), a 2-storey or 2' lift can be created.

Mount a paint spray nozzle onto a LINTRA carriage and you have an inexpensive automated paint sprayer with excellent repeatability. LINTRA doesn't get tired.



A manufacturer of custom drapery glides a sewing machine down the length of stitching stations attached to LINTRA cylinders. The result is a smooth, even line delivered with precision.

Actuators

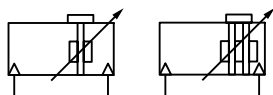
LINTRA[®] RODLESS CYLINDERS

M/46000, .../M, M/46100,

Internal and external guided

Double acting

Ø 16 to 80 mm



Well proven, long life sealing technology

Lightweight design extrusion with integral switch mounting slots

Capable of withstanding large bending moments and lateral forces

Non-lube operation

TECHNICAL DATA

Medium:

Compressed air, filtered and lubricated or non-lubricated

Operation:

M/46000, M/46100,

Double acting, adjustable cushioning, non-magnetic piston

M/46000/M, M/46100/M,

Double acting, adjustable cushioning, magnetic piston

Operating pressure:

1 to 10 bar

(1,5 to 10 bar for Ø 16 mm)

Operating temperature:

-30°C to +80°C.

Consult our Technical Service for use below +2°C

Strokes:

Made to order

Ø 16 to 40 mm: 8500 mm max

Ø 50 and 63 mm: 7000 mm max

Ø 80: 5500 mm max

STANDARD MODELS

Ø	Port size	Magnetic	Magnetic	Service kit
16	M5	M/46016/M/*	M/46116/M/*	QM/46116/00
20	G1/8	M/46020/M/*	M/46120/M/*	QM/46120/00
25	G1/8	M/46025/M/*	M/46125/M/*	QM/46125/00
32	G1/4	M/46032/M/*	M/46132/M/*	QM/46132/00
40	G1/4	M/46040/M/*	M/46140/M/*	QM/46140/00
50	G3/8	M/46050/M/*	M/46150/M/*	QM/46150/00
63	G1/2	M/46063/M/*	M/46163/M/*	QM/46163/00
80	G1/2	M/46080/M/*	M/46180/M/*	QM/46180/00

* Insert stroke length in mm.

Order seal and cover strip separately.

SWITCHES

With integral cable



With plug-in cable



	Model	Model	Cable
Reed	M/50/LSU/*V	M/50/LSU/CP	M/P73001/5 [5 m]
Solid state	M/50/EAP/*V	M/50/EAP/CP	M/P73001/5 [5 m]

*Insert cable length - 2, 5 or 10 m.

MOUNTINGS

Ø	C	S*	UV*	V	W**	UW**
16	QM/46016/21	QM/46016/37	QM/46016/34	QM/46016/32	QM/46116/35	-
20	QM/46020/21	QM/46020/37	QM/46020/34	QM/46020/32	QM/46120/35	QM/46120/36
25	QM/46025/21	QM/46025/37	QM/46025/34	QM/46025/32	QM/46125/35	QM/46125/36
32	QM/46032/21	QM/46032/37	QM/46032/34	QM/46032/32	QM/46132/35	QM/46132/36
40	QM/46040/21	QM/46032/37	QM/46040/34	QM/46040/32	QM/46140/35	QM/46140/36
50	QM/46050/21	QM/46050/37	QM/46050/34	QM/46050/32	QM/46150/35	QM/46150/36
63	QM/46063/21	QM/46050/37	QM/46063/34	QM/46063/32	QM/46163/35	QM/46163/36
80	QM/46080/21	QM/46080/37	QM/46080/34	QM/46080/32	QM/46180/35	-

* Suitable for internally guided models only. ** Suitable for external guided models only.

FOR PRICES, PLEASE CONTACT NORGREN

LINTRA[®] PLUS RODLESS CYLINDERS

M/146000, M/146100,

Internal and external guided

Double acting

Ø 32 to 50 mm



New lightweight design extrusion with universal mounting grooves
Proven and patented sealing system
Dust protection as standard
Interchangeability with series M/46000

Part no.	Guiding System	List Price for Zero Stroke	Incremental Price per mm
M/146032/M/00	Internal	6850	3.10
M/146040/M/00	Internal	8100	3.90
M/146050/M/00	Internal	11500	6.90
M/146132/M/00	External	13800	8.80
M/146140/M/00	External	17530	10.10
M/146150/M/00	External	22300	13.80

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operation:

M/146000, M/146100, M/146200

Double acting, with adjustable cushioning and magnetic piston

Operating pressure:

1 to 8 bar

Operating temperature:

-30°C to +80°C max.

Consult our Technical Service for use below +2°C

Max strokes:

Made to order

Ø 32 to 44 mm 8500mm

Ø 32 to 44 mm 8500mm

SWITCHES

With integral cable



With plug-in cable



Type*	Cable Length (m)	Model
Reed	2	M/50/LSU/2V
Reed	5	M/50/LSU/5V
Solid State	2	M/50/EAP/2V
Solid State	5	M/50/EAP/5V

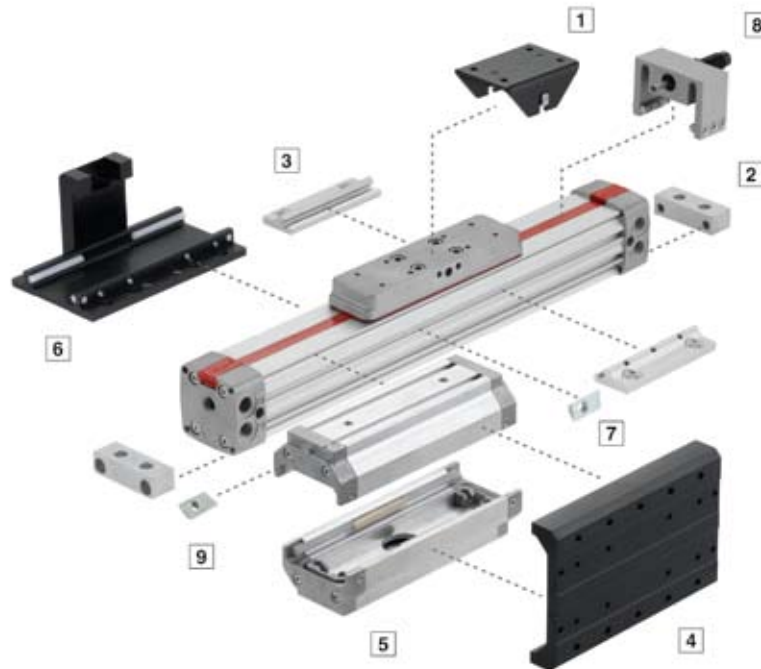
* Model with plug-in cable available on request

MOUNTINGS

Ø	C	S	UV	UW	V
	2	1	6	4	3
32	QM/46032/21	QM/46032/37	QM/46032/34	QM/46032/36	QM/46032/32
40	QM/46040/21	QM/46032/37	QM/46040/34	QM/46020/36	QM/46040/32
50	QM/46050/21	QM/46050/37	QM/46050/34	QM/46150/36	QM/46050/32

Ø	W	Assembly kit for caged ball linear motion guide	Adjustable stop	Groove Key for profile barrel	Groove Key for guiding bridge
	5	10	8	7	9
32	QM/146132/35	QM/46232/70	QM/146132/75	M/P74065	M/P74065
40	QM/146140/35	QM/46232/70	QM/146140/75	M/P74065	M/P74065
50	QM/146150/35	QM/46250/70	QM/146150/75	M/P74065	M/P74065

FOR PRICES, PLEASE CONTACT NORGREN



SWITCHES

With integral cable



With plug-in cable



Type Reed	Solid state	Voltage V AC	V DC	Current max.	Temperature °C	LED	Features	Connector length	Cable Cable type	Cable with connector straight	Datasheet
M/50/LSU/*V	-	10 to 240	10 to 170	180mA	-20 to +80	•	-	2,5,10m	PVC 2 x 0.25	-	N/en 4.3.005
M/50/LSU/5U	-	10 to 240	10 to 170	180mA	-20 to +80	•	-	5m	PUR 2 x 0.25	-	N/en 4.3.005
TM/50/RAU/2S	-	10 to 240	10 to 170	180mA	-20 to +150	-	-	2m	Silicone 2 x 0.25	-	N/en 4.3.005
M/50/RAC/5V	-	10 to 240	10 to 170	180mA	-20 to +80	-	Change over	5m	PVC 3 x 0.25	-	N/en 4.3.005
M/50/LSU/CP	-	10 to 260	10 to 75	180mA	-20 to +80	•	Plug M8 x 1	5m	PVC 3 x 0.25	M/P73001/5	N/en 4.3.005
-	M/50/EAP/*V	-	10 to 30	150mA	-20 to +80	•	PNP	2,5,10m	PVC 3 x 0.25	-	N/en 4.3.007
-	M/50/EAP/CP	-	10 to 30	150mA	-20 to +80	•	PNP, Plug M8 x 1	5m	PVC 3 x 0.25	M/P73001/5	N/en 4.3.007
-	M/50/EAP/CC	-	10 to 30	150mA	-20 to +80	•	PNP, Plug M12 x 1	5m	PVC 3 x 0.25	M/P34614/5	N/en 4.3.007
-	M/50/EAN/*V	-	10 to 30	150mA	-20 to +80	•	NPN	2,5,10m	PVC 3 x 0.25	-	N/en 4.3.007
-	M/50/EAN/CP	-	10 to 30	150mA	-20 to +80	•	NPN, Plug M8 x 1	5m	PVC 3 x 0.25	M/P73001/5	N/en 4.3.007

* Please insert cable length Further information (Technical data, cable material, dimensions) see data sheet
FOR PRICES, PLEASE CONTACT NORGREN

The biggest range of corrosion resistant pneumatic products



VM/46000 series

CORROSION RESISTANT LINTRA® RODLESS CYLINDERS, INTERNAL AND EXTERNAL GUIDED. Ø 20 TO 80 MM. STROKES UP TO 3500 MM. FOR DETAILS SEE PAGE 182



S0 Series

STAINLESS STEEL PUSH-IN FITTINGS. 4 TO 12 MM TUBE, THREAD SIZES R1/8 TO R1/2, G1/8 TO G1/2. FOR DETAILS SEE PAGE 510

The Norgren range of corrosion resistant products is the most extensive of any pneumatic manufacturer.

This includes a complete range of stainless steel push-in fittings and even corrosion resistant bellows for aggressive environments.

As one of the world's first suppliers of pneumatic equipment we continue to develop products to suit new demands.

This means that corrosion resistant products can be supplied and serviced worldwide. Norgren Sales and Service centres across the globe are ready to assist you in any specific field.



KM/55001/M

STAINLESS STEEL CLEAN LINE DOUBLE ACTING ISO CYLINDERS. CLEAN LINE Ø 32 TO 125 MM. STROKES UP TO 1600 MM. FOR DETAILS SEE PAGE 176



KM/31000

STAINLESS STEEL AIR BELLOWS WITH 1, 2 AND 3 CONVOLUTIONS. Ø 220 TO 390 MM. FOR DETAILS SEE PAGE 184



KM/8000/M

STAINLESS STEEL (ISO) ROUNDLINE CYLINDERS Ø 12 TO 25 MM - STROKES UP TO 500 MM FOR DETAILS SEE PAGE 174



F22, R22, L22

STAINLESS STEEL AIR LINE EQUIPMENT MEETS NACE RECOMMENDATIONS. FOR DETAILS SEE PAGE 484



KA/8000/M

STAINLESS STEEL ISO/VDMA TIE ROD CYLINDERS Ø 32 TO 200 MM, STROKE UP TO 250 MM FOR DETAILS SEE PAGE 180

CONTACT OUR TECHNICAL SERVICE FOR FURTHER DETAILS

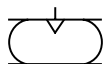
Actuators

COMPACT AIR BELLOWS

PM/31000

Single acting

Ø 2³/₄ to 12 inch



Frictionless operation
 No maintenance or lubrication
 Ideal for short stroke, high-force applications
 High vibration isolation level
 Easy, compact installation

TECHNICAL DATA

Medium:

Compressed air, non-lubricated

Operating pressure:

8 bar maximum

Operating temperature:

-40°C to +70°C for PM/31000

(Standard)

Consult our Technical Service for use below +2°C

Important instructions:

The design of these air bellows allows an operation at an angle of 5° to 25°. The top and bottom plate can be out of alignment, depending on the height of the air bellows and the number of convolutions. To avoid damage mechanical stops at both end positions have to be used. To return Air Bellows to their minimum height an external return force must be used. The thrust depends directly on the height of the air bellows: When height increases – the thrust decreases. As the outside diameter varies in operation there must be enough clearance around the air bellows.

STANDARD MODELS

Nominal Ø (inch) x convolutions	Maximum stroke (mm)	Port size	Model	Unit price (Rs)
2 ³ / ₄ x 1	20	G1/4	PM/31021	5060
2 ³ / ₄ x 2	45	G1/4	PM/31022	5190
2 ³ / ₄ x 3	65	G1/4	PM/31023	5370
4 ¹ / ₂ x 1	40	G3/8	PM/31041	5680
4 ¹ / ₂ x 2	80	G3/8	PM/31042	6700
6 x 1	55	G1/2	PM/31061	6810
6 x 2	115	G1/2	PM/31062	7480
8 x 1	95	G3/4	PM/31081	9130
8 x 2	185	G3/4	PM/31082	9860
9 ¹ / ₂ x 1	105	G3/4	PM/31091	10860
9 ¹ / ₂ x 2	230	G3/4	PM/31092	11170
12 x 1	105	G3/4	PM/31121	10250
12 x 2	215	G3/4	PM/31122	12880
12x3	315	G3/4	PM/31123	16550

Safety note: These actuators must not be pressurised when unrestrained.

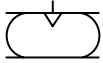
For exact calculation for compact air bellows please contact our Technical Service.

SERVICEABLE AIR BELLOWS

M/31000

Single acting

Ø 6 to 26 inch



Frictionless operation
No maintenance or lubrication
Ideal for short stroke,
high-force applications
High vibration isolation level
Simple to install

TECHNICAL DATA

Medium:
Compressed air, non-lubricated

Operating pressure:
8 bar maximum

Operating temperature:
-40°C to +70°C for M/31000 (Standard)

Consult our Technical Service for use below +2°C

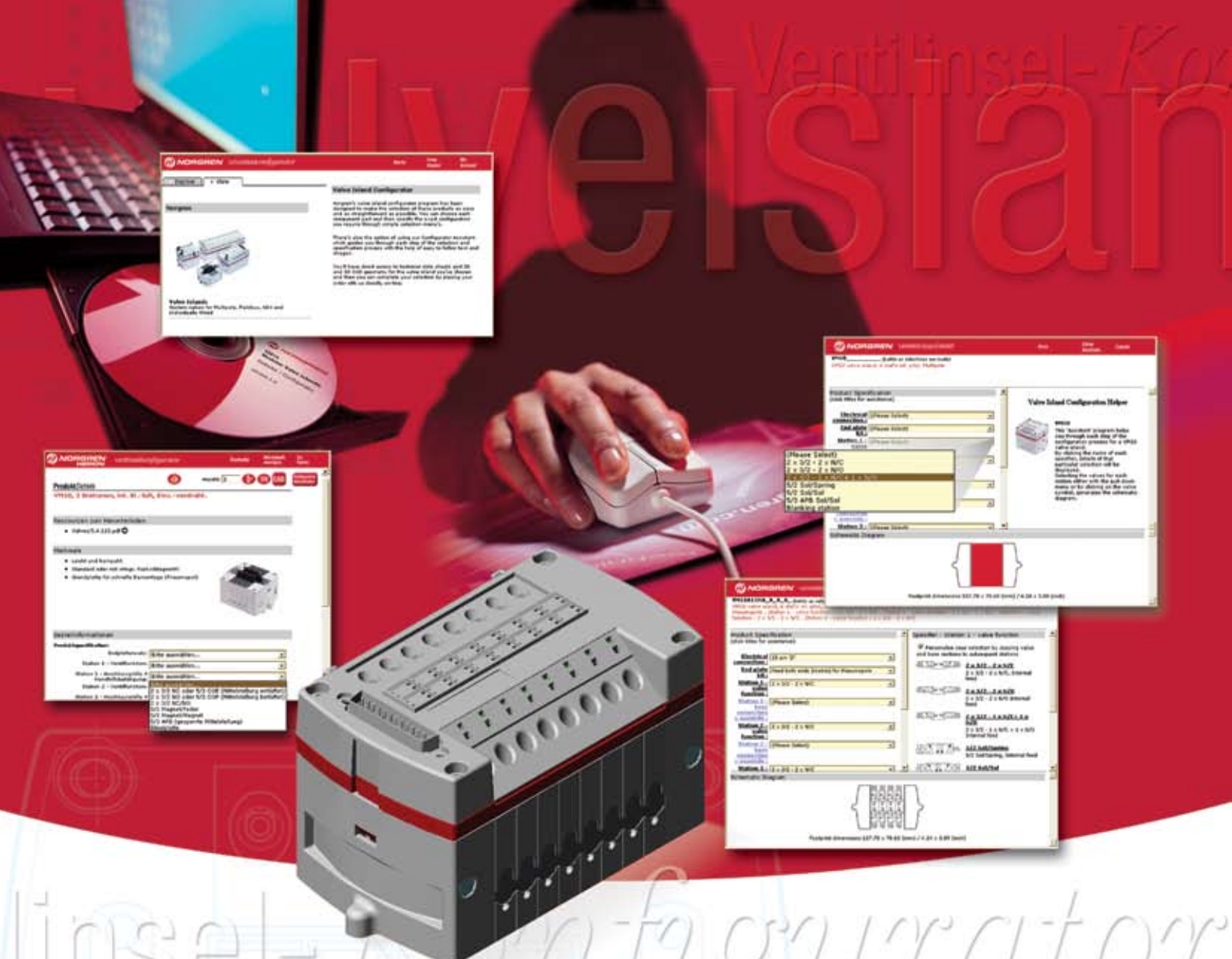
Important instructions:

The design of these air bellows allows an operation at an angle of 5° to 25°. The top and bottom plate can be out of alignment, depending on the height of the air bellow and the number of convolutions. To avoid damage mechanical stops at both end positions have to be used. To return Air Bellows to their minimum height an external return force must be used. The thrust depends directly on the height of the air bellow: When height increases – the thrust decreases. As the outside diameter varies in operation there must be enough clearance around the air bellow.

STANDARD MODELS

Nominal Ø (inch) x convolutions	Maximum stroke (mm)	Port size	Model	Unit price (Rs)
6 x 1	55	G1/2	M/31061	7540
6 x 2	115	G1/2	M/31062	8215
8 x 1	80	G1/2	M/31081	8265
8 x 2	175	G1/2	M/31082	8705
10 x 1	100	G1/2	M/31101	9250
10 x 2	225	G1/2	M/31102	10850
10 x 3	330	G1/2	M/31103	13110
12 x 1	100	G1/2	M/31121	10050
12 x 2	225	G1/2	M/31122	12740
12 x 3	330	G1/2	M/31123	16240
14 1/2 x 1	125	G1/2	M/31141	13460
14 1/2 x 2	265	G1/2	M/31142	16710
14 1/2 x 3	380	G1/2	M/31143	24700
16 x 2	315	G1/2	M/31162	19720
16 x 3	430	G1/2	M/31163	25780
21 x 2	280	G3/4	M/31212	94580
26 x 2	410	G3/4	M/31262	99980

Safety note: These actuators must not be pressurised when unrestrained.
For exact calculation for compact air bellows please contact our Technical Service.



VM10 valve island - Easy to select & configure from more than 7-million possible configurations

- Save time with Norgren's unique easy-to-use valve island configurator, available either online or on CD
- Viewable/downloadable 2D and 3D CAD drawings in 14 file formats
- Downloadable multi-language technical and dimensional information
- List price automatically calculated for complete valve islands
- Easy to configure up to 20 stations (40 coils) Configure the unit that exactly meets your needs from:
 - ~ 260 valve options per station, including 5/2, 5/3 and 2 x 3/2 functions
 - ~ 7 fitting sizes per valve
 - ~ Individually wired, Multipole or Fieldbus
 - ~ Internal or external pilot
 - ~ 4 inlet/exhaust fitting sizes

VM10 SERIES VALVE ISLANDS

Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings

Ø 3 mm, 4 mm, 6 mm

Multipole or individually wired for installation flexibility

Interchangeable Fieldbus compatible modules

Compact and lightweight

Standard or checked exhaust paths

Quick disconnect base (Pneumapole)

High flow from 10 mm valve width

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operation:

Spool valve indirectly actuated

Port sizes:

Ø 3 mm, 4 mm, 6 mm Push-in fittings

Operating pressure:

Maximum 8 bar

Flow:

Function	'C'	'b'	'A'	l/min	Cv	Kv
5/2 port 1 to 2 & 4	1,77	0,48	7,10	430	0,44	0,36
5/2 ports 2 to 3 & 4 to 5	1,65	0,45	6,61	400	0,41	0,34
3/2 ports 1 to 2 & 1 to 4	1,44	0,39	5,78	350	0,36	0,29
3/2 ports 2 to 3 & 4 to 5	1,44	0,39	5,78	350	0,36	0,29
5/3 ports 1 to 2 & 4	1,44	0,39	5,78	350	0,36	0,29
5/3 ports 2 to 3 & 4 to 5	1,44	0,39	5,78	350	0,36	0,29

Degree of protection:

IP65

Ambient temperature:

-20°C to +50°C

Consult our Technical Service for use below +2°C.

Materials

Aluminium spool with nitrile rubber seals

Body, end plates: engineered PPA co-polymer



2 x 3/2 Double solenoid actuated valves

Model	Manual override	Function 2 x 3/2	Pilot supply	Actuation	Operating pressure (bar)	Pilot pressure (bar)	kg
VM10*A11*B213B	Turn & lock	NC	Internal	Sol/Spring	3 ... 8	-	0,054
VM10*A11*B313B	Push only	NC	Internal	Sol/Spring	3 ... 8	-	0,054
VM10*A22*B213B	Turn & lock	NC	External	Sol/Spring	-0,9 ... 8	3 ... 8	0,054
VM10*A22*B313B	Push only	NC	External	Sol/Spring	-0,9 ... 8	3 ... 8	0,054
VM10*B11*B213B	Turn & lock	NO	Internal	Sol/Spring	3 ... 8	-	0,054
VM10*B11*B313B	Push only	NO	Internal	Sol/Spring	3 ... 8	-	0,054
VM10*B22*B213B	Turn & lock	NO	External	Sol/Spring	-0,9 ... 8	3 ... 8	0,054
VM10*B22*B313B	Push only	NO	External	Sol/Spring	-0,9 ... 8	3 ... 8	0,054
VM10*C11*B213B	Turn & lock	NC/NO	Internal	Sol/Spring	3 ... 8	-	0,054
VM10*C11*B313B	Push only	NC/NO	Internal	Sol/Spring	3 ... 8	-	0,054
VM10*C22*B213B	Turn & lock	NC/NO	External	Sol/Spring	-0,9 ... 8	3 ... 8	0,054
VM10*C22*B313B	Push only	NC/NO	External	Sol/Spring	-0,9 ... 8	3 ... 8	0,054

5/2 Single and double solenoid actuated valves

Model	Manual override	Function	Pilot supply	Actuation	Operating pressure (bar)	Pilot pressure (bar)	kg
VM10*517*B213B	Turn & lock	5/2	Internal	Sol/Spring	3 ... 8	-	0,044
VM10*517*B313B	Push only	5/2	Internal	Sol/Spring	3 ... 8	-	0,044
VM10*527*B213B	Turn & lock	5/2	External	Sol/Spring	-0,9 ... 8	3 ... 8	0,044
VM10*527*B313B	Push only	5/2	External	Sol/Spring	-0,9 ... 8	3 ... 8	0,044
VM10*511*B213B	Turn & lock	5/2	Internal	Sol/Sol	2 ... 8	-	0,054
VM10*511*B313B	Push only	5/2	Internal	Sol/Sol	2 ... 8	-	0,054
VM10*522*B213B	Turn & lock	5/2	External	Sol/Sol	-0,9 ... 8	2 ... 8	0,054
VM10*522*B313B	Push only	5/2	External	Sol/Sol	-0,9 ... 8	2 ... 8	0,054

5/3 Double solenoid actuated valves

Model	Manual override	Function	Pilot supply	Actuation	Operating pressure (bar)	Pilot pressure (bar)	kg
VM10*611*B213B	Turn & lock	5/3 APB	Internal	Sol/Sol	3 ... 8	-	0,055
VM10*611*B313B	Push only	5/3 APB	Internal	Sol/Sol	3 ... 8	-	0,055
VM10*622*B213B	Turn & lock	5/3 APB	External	Sol/Sol	-0,9 ... 8	3 ... 8	0,055
VM10*622*B313B	Push only	5/3 APB	External	Sol/Sol	-0,9 ... 8	3 ... 8	0,055

Note: For 5/3 COE please use 2 x 3/2 NC. For 5/3 COP please use 2 x 3/2 NO
 APB = All Ports Blocked COE = Centre Open Exhaust COP = Centre Open Pressure
 FOR PRICES, PLEASE CONTACT NORGREN

VM10 SERIES VALVE ISLANDS

Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings

Ø 3 mm, 4 mm, 6 mm

OPTIONS SELECTOR

VM10★★★★★B★13B

Tube size	Substitute	Manual override	Substitute
3 mm PIF	3	Turn to lock manual override	2
4 mm PIF	4	Push only manual override	3
6 mm PIF	6		
No PIF (for use with Pneumapole)	7		
Valve function	Substitute	Exhaust	Substitute
5/2	5	Standard open exhaust	A
5/3 APB	6	Checked exhaust (integral non return valve)*	U
2 x 3/2 NC and 5/3 COE	A		
2 x 3/2 NO and 5/3 COP	B		
2 x 3/2 NC and NO	C		
		Actuation/pilot supply	Substitute
		Solenoid/solenoid internal pilot	11
		Solenoid/spring internal pilot **	17
		Solenoid/solenoid external pilot	22
		Solenoid/spring external pilot **	27

Note: For 5/3 COE and COP use 2 x 3/2
 APB = All Ports Blocked COE = Centre Open Exhaust COP = Centre Open Pressure
 For valve island specification see fax-back form after page 232
 Use our configurator under <http://www.norgren.com> (also available on CD)
 * Requires Pneumapole sub-base
 ** Can only be used with 5/2 valve

ELECTRICAL DETAILS

Voltage:	24 V d.c. 0,6 W
Surge suppression:	Flywheel diode
Indication:	Yellow LED

SOLENOIDS

Voltage tolerance:	± 10%
Rating:	100% ED

Accessories for individually wired and multiple valve islands

D Sub-connector 25 pin	D Sub-connector 44 pin	2 Pin connector	Valve blanking station	Port blanking station
V11569-E01 1 m L1	V11570-E01 1 m M1	V11556-E10 1 m K2	VM106517AQ0300 21	VM106517AQ0301 Port 1 blanked 31
V11569-E03 3 m L2	V11570-E03 3 m M2	V11556-E03 0,3 m K1		VM106517AQ0302 Ports 3 & 5 blanked 41
V11569-E05 5 m L3	V11570-E05 5 m M3			VM106517AQ0303 Ports 1, 3 & 5 blanked 51
Pressure switch	DIN Rail	DIN Rail fixing kit	Manual override kit	Pneumapole sub-base
VM106517AQ0804 4 mm 7A	V10009-C00 1 m A17	V11554-K30 8D	V11574-K30 Push only N1	For part numbers and dimensional details see page 225*
VM106517AQ0806 6 mm 7B				

Stem silencer**



T45P0004	4 mm
T45P0006	6 mm
T45P0008	8 mm
T45P0010	10 mm
T45P0012	12 mm

* Currently under development, consult our Technical Service

** For more information, please see page 575

N2 = Short order code

FOR PRICES, PLEASE CONTACT NORGREN

VM10 SERIES VALVE ISLANDS

Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings

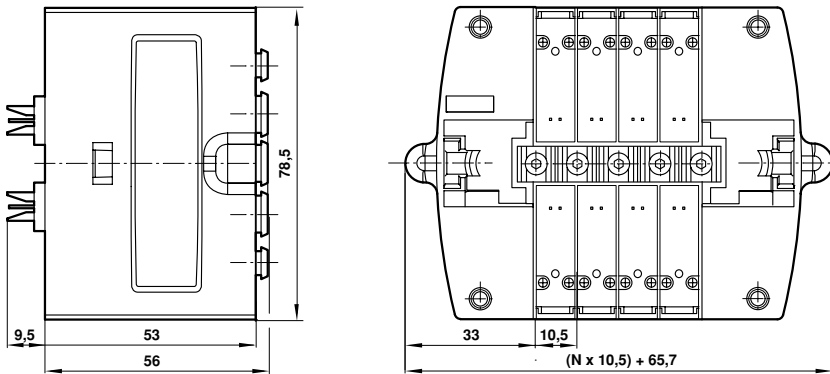
Ø 3 mm, 4 mm, 6 mm

MODULAR ASSEMBLY

Individually wired IP40

Individually wired	No. stations	Max. no. coils	kg*
2 Pin connector	2 to 20	40	0,170

* kg + valves weight



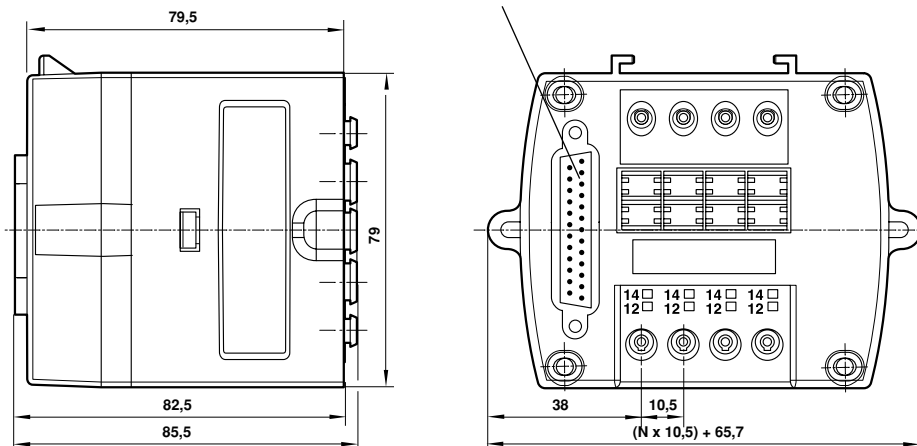
N = number of stations

Multipole IP65

Multipole	No. stations	Model	Max. no. coils	Short code	kg
25 Pin connector	4	VM106517AQ0404	8	A1	0,116
25 Pin connector	6	VM106517AQ0406	12	A2	0,122
25 Pin connector	8	VM106517AQ0408	16	A3	0,128
25 Pin connector	10	VM106517AQ0410	20	A4	0,134
25 Pin connector	12	VM106517AQ0412	24	A5	0,140
44 Pin connector	10	VM106517AQ0510	20	B1	0,138
44 Pin connector	12	VM106517AQ0512	24	B2	0,144
44 Pin connector	16	VM106517AQ0516	32	B3	0,160

For common +ve, change 11th digit to R e.g. VM106517AQR404

25 Pin connector for 4, 6, 8, 10 & 12 station
44 Pin connector for 10, 12 & 16 station



N = number of stations

FOR PRICES, PLEASE CONTACT NORGREN

VM10 SERIES VALVE ISLANDS

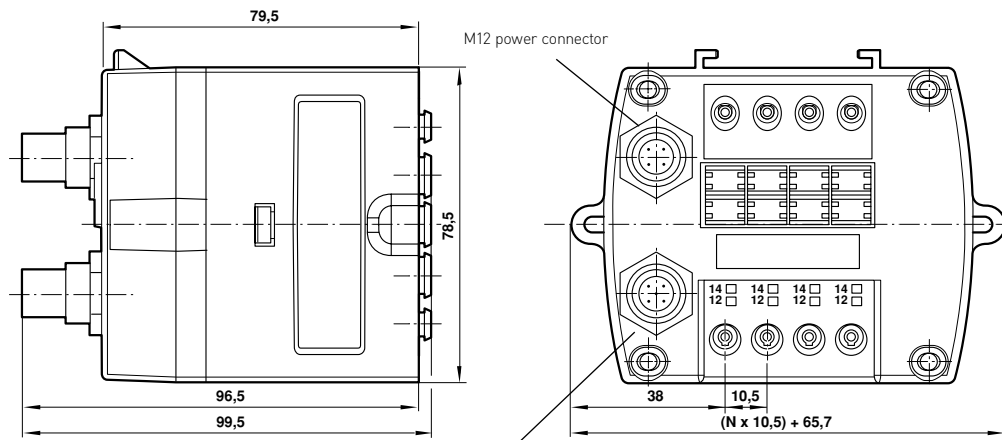
Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings

Ø 3 mm, 4 mm, 6 mm

Fieldbus connections (M12 connector types) IP65

Standard Fieldbus - available protocols	No. stations	Model	Max. no. coils	Short code	kg
DeviceNet	8	VM10DNFNB-00080	16	C1	0,138
DeviceNet	10	VM10DNFNB-00100	20	C2	0,144
DeviceNet	12	VM10DNFNB-00120	24	C3	0,150
DeviceNet	16	VM10DNFNB-00160	32	C4	0,170
CANopen	8	VM10CAFNB-00080	16	D1	0,138
CANopen	10	VM10CAFNB-00100	20	D2	0,144
CANopen	12	VM10CAFNB-00120	24 </td <td>D3</td> <td>0,150</td>	D3	0,150
CANopen	16	VM10CAFNB-00160	32	D4	0,170
AS-interface	4*	VM10AS10A-00410	4	J1	0,138
AS-interface**	8*	VM10AS10A-00810	8	J2	0,144
AS-interface**	4*	VM10AS10A-00820	8	J3	0,150
AS-interface**	6*	VM10AS10A-00830	8	J4	0,170

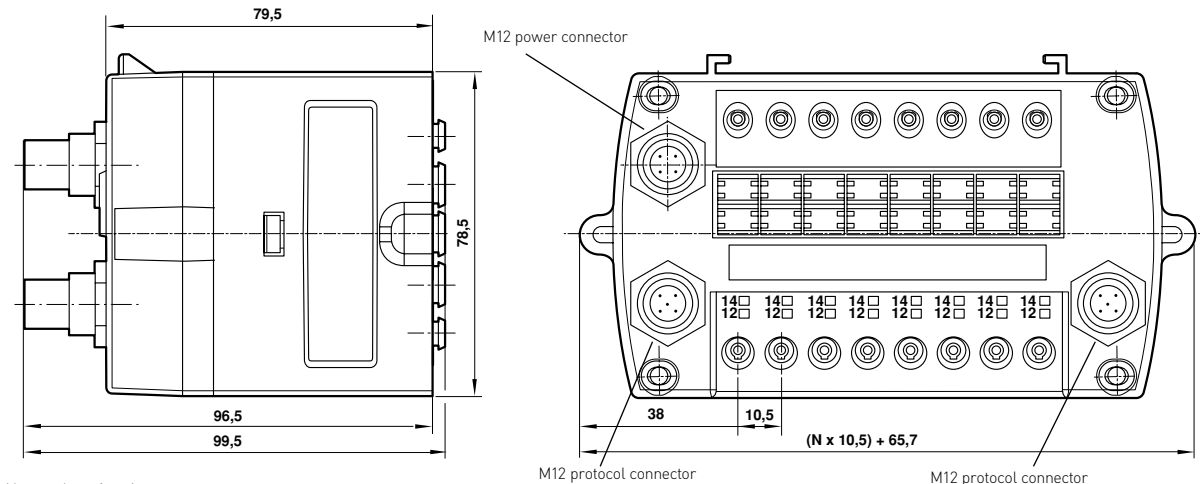
* Number of stations = 4 [4 x sol/spring], 8 [8 x sol/spring], 4 [4 x sol/sol], 6 [4 x sol/spring, 2 x sol/sol]. ** Use 2 x M12 protocol connectors



N = number of stations

Fieldbus connections (M12 connector types) IP65

Standard Fieldbus - available protocols	No. of stations	Model	Max. no. coils	Short code	kg
Profibus-DP	8	VM10DPFNB-00080	16	E1	0,138
Profibus-DP	10	VM10DPFNB-00100	20	E2	0,144
Profibus-DP	12	VM10DPFNB-00120	24	E3	0,150
Profibus-DP	16	VM10DPFNB-00160	32	E4	0,170
AB RIO	8	VM10RIFNB-00080	16	G1	0,138
AB RIO	10	VM10RIFNB-00100	20	G2	0,144
AB RIO	12	VM10RIFNB-00120	24	G3	0,150
AB RIO	16	VM10RIFNB-00160	32	G4	0,170



N = number of stations

FOR PRICES, PLEASE CONTACT NORGREN

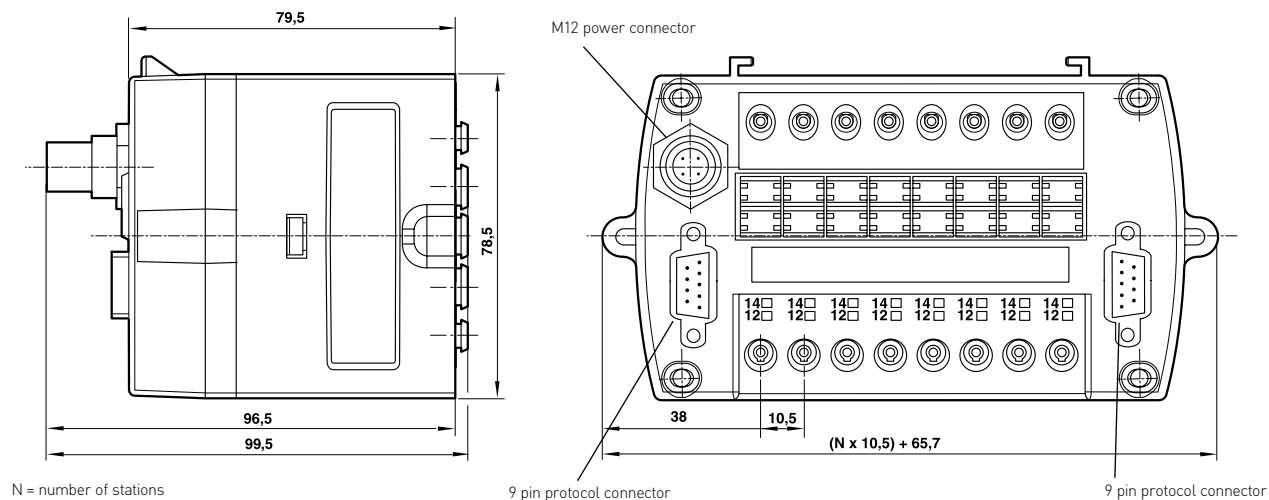
VM10 SERIES VALVE ISLANDS

Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings

Ø 3 mm, 4 mm, 6 mm

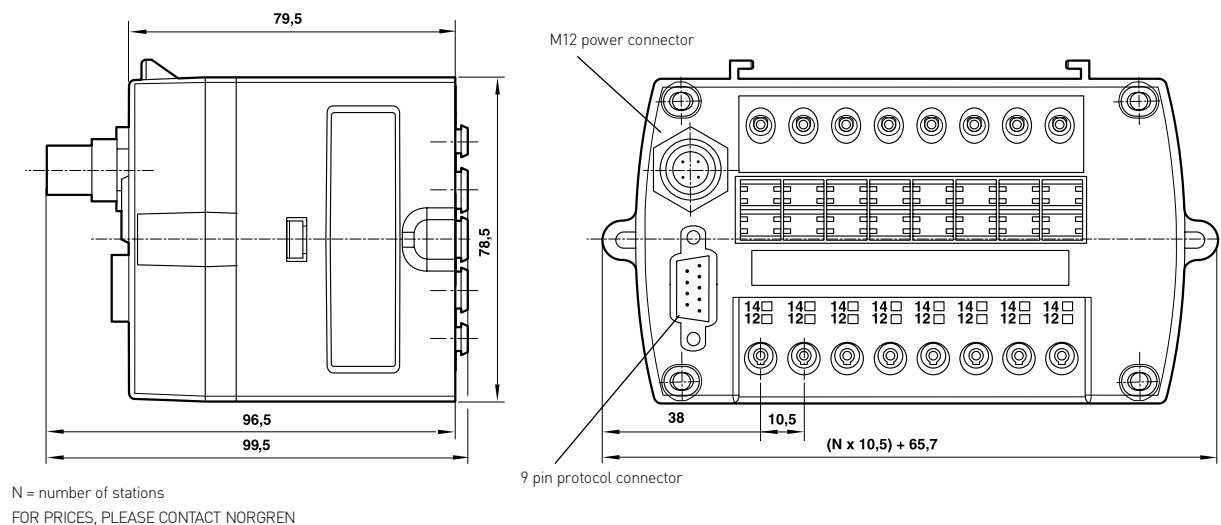
Fieldbus connections - (9 pin D-type connector) IP65

Standard Fieldbus - available protocols	No. of stations	Model	Max. no. coils	Short code	kg
Interbus-S	8	VM10IBFNB-00080	16	F1	0,138
Interbus-S	10	VM10IBFNB-00100	20	F2	0,144
Interbus-S	12	VM10IBFNB-00120	24	F3	0,150
Interbus-S	16	VM10IBFNB-00160	32	F4	0,170



Fieldbus connections - (9 pin D-type connector) IP40

Standard Fieldbus - available protocols	No. of stations	Model	Max. no. coils	Short code	kg
Profibus-DP	8	VM10DPFNB-00081	16	E5	0,138
Profibus-DP	10	VM10DPFNB-00101	20	E6	0,144
Profibus-DP	12	VM10DPFNB-00121	24	E7	0,150
Profibus-DP	16	VM10DPFNB-00161	32	E8	0,170



FOR PRICES, PLEASE CONTACT NORGREN

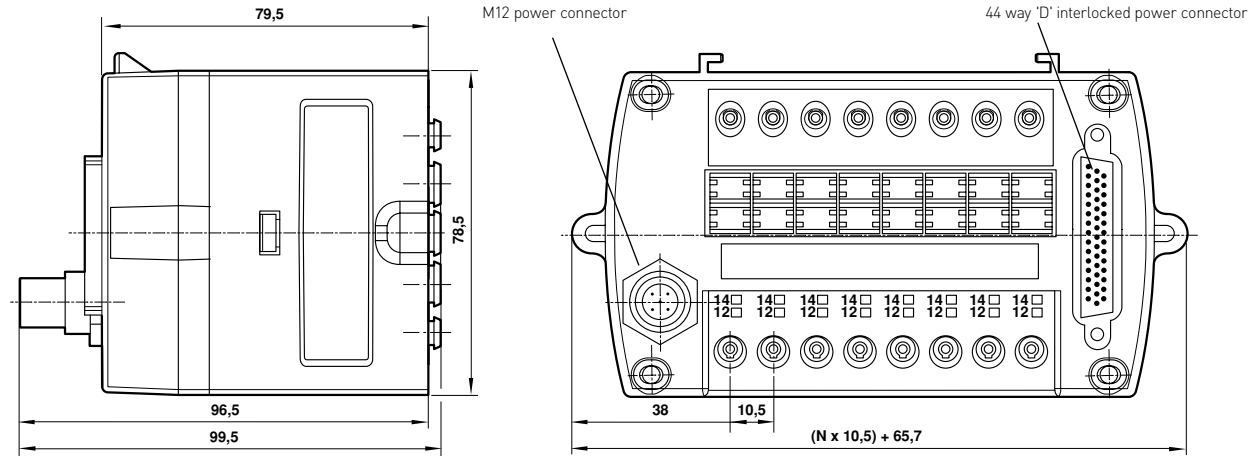
VM10 SERIES VALVE ISLANDS

Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings

Ø 3 mm, 4 mm, 6 mm

Fieldbus connections with interlocks IP65

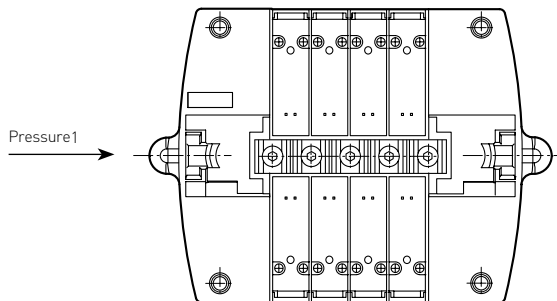
Standard Fieldbus - available protocols	No. of stations	Model	Max. no. coils	Short code	kg
DeviceNet	8	VM10DNFNB-00081	16	C5	0,138
DeviceNet	10	VM10DNFNB-00101	20	C6	0,144
DeviceNet	12	VM10DNFNB-00121	24	C7	0,150
DeviceNet	16	VM10DNFNB-00161	32	C8	0,170
CANopen	8	VM10CAFNB-00081	16	D5	0,138
CANopen	10	VM10CAFNB-00101	20	D6	0,144
CANopen	12	VM10CAFNB-00121	24	D7	0,150
CANopen	16	VM10CAFNB-00161	32	D8	0,170



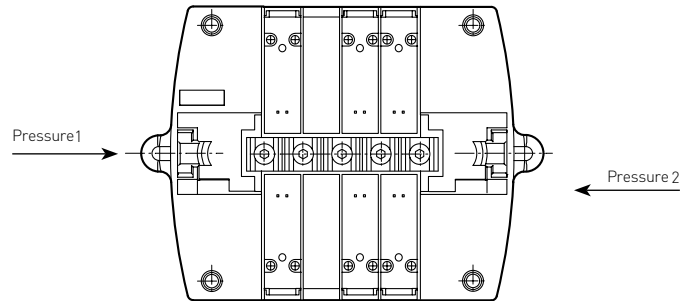
N = number of stations

MULTI-PRESSURE OPTIONS

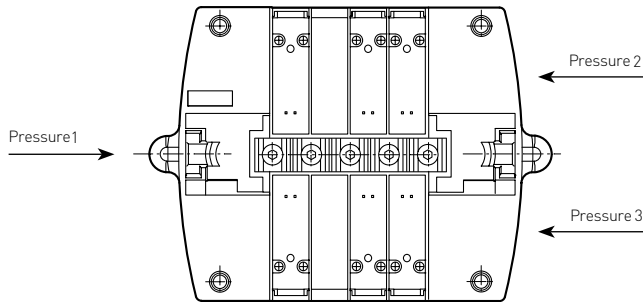
Single pressure



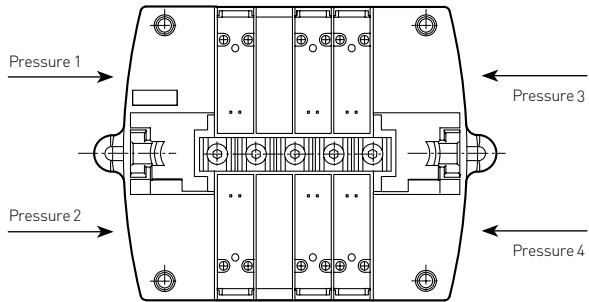
Dual pressure



Three pressure



Four pressure



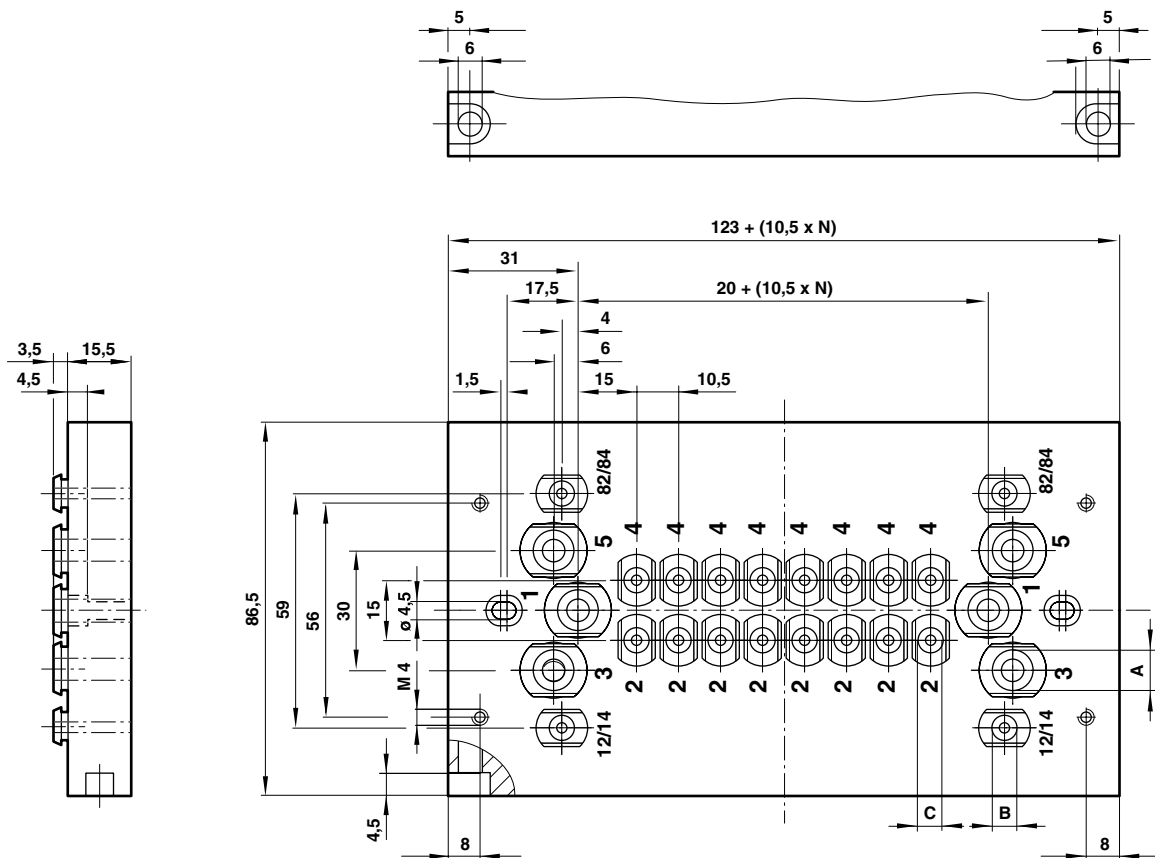
FOR PRICES, PLEASE CONTACT NORGREN

VM10 SERIES VALVE ISLANDS

Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings

Ø 3 mm, 4 mm, 6 mm

Pneumapole sub-base *



Model	Description	A Ports 1, 3 & 5	B Ports 12/14 & 82/84	C Ports 2 & 4	Exhaust type	Short code
VM106517AQ6604	4 station Pneumapole	10 mm	6 mm	6 mm	Standard	3C
VM106517AQ6606	6 station Pneumapole	10 mm	6 mm	6 mm	Standard	3F
VM106517AQ6608	8 station Pneumapole	10 mm	6 mm	6 mm	Standard	3J
VM106517AQ6610	10 station Pneumapole	10 mm	6 mm	6 mm	Standard	3M
VM106517AQ6612 *	12 station Pneumapole	10 mm	6 mm	6 mm	Standard	3Q
VM106517AQ6616 *	16 station Pneumapole	10 mm	6 mm	6 mm	Standard	3T
VM106517UQ6804 *	4 station Pneumapole	10 mm	6 mm	6 mm	Checked exhaust	5C
VM106517UQ6806 *	6 station Pneumapole	10 mm	6 mm	6 mm	Checked exhaust	5F
VM106517UQ6808 *	8 station Pneumapole	10 mm	6 mm	6 mm	Checked exhaust	5J
VM106517UQ6810 *	10 station Pneumapole	10 mm	6 mm	6 mm	Checked exhaust	5M
VM106517UQ6812 *	12 station Pneumapole	10 mm	6 mm	6 mm	Checked exhaust	5Q
VM106517UQ6816 *	16 station Pneumapole	10 mm	6 mm	6 mm	Checked exhaust	5T

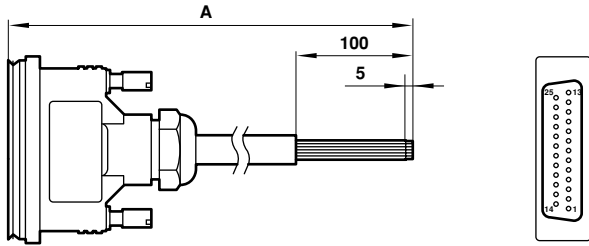
* Currently under development, consult our Technical Service
FOR PRICES, PLEASE CONTACT NORGRN

VM10 SERIES VALVE ISLANDS

Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings

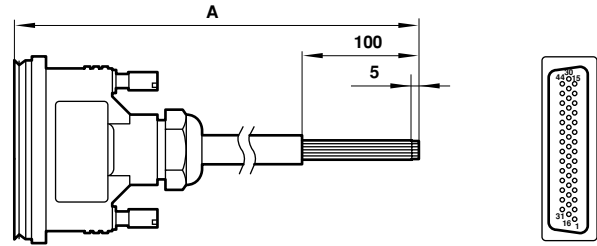
Ø 3 mm, 4 mm, 6 mm

25 pin D sub-connector



Model	A	Short code	kg
V11569-E01	1 m	L1	0,276
V11569-E03	3 m	L2	0,676
V11569-E05	5 m	L3	1,076

44 pin D Sub-connector



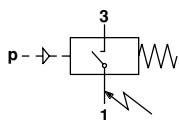
Model	A	Short code	kg
V11570-E01	1 m	M1	0,280
V11570-E03	3 m	M2	0,680
V11570-E05	5 m	M3	1,080

PIN No.	Wire colour	Socket	Pilot	Station
1	White	Solenoid 1-a	14	1
2	Brown	Solenoid 2-a	14	2
3	Green	Solenoid 3-a	14	3
4	Yellow	Solenoid 4-a	14	4
5	Grey	Solenoid 5-a	14	5
6	Pink	Solenoid 6-a	14	6
7	Blue	Solenoid 7-a	14	7
8	Red	Solenoid 8-a	14	8
9	Black	Solenoid 9-a	14	9
10	Violet	Solenoid 10-a	14	10
11	Grey/Pink	Solenoid 11-a	14	11
12	Red/Blue	Solenoid 12-a	14	12
13	White/Green	Common-Ve	-	-
14	Brown/Green	Solenoid 1-b	12	1
15	White/Yellow	Solenoid 2-b	12	2
16	Yellow/Brown	Solenoid 3-b	12	3
17	White/Grey	Solenoid 4-b	12	4
18	Grey/Brown	Solenoid 5-b	12	5
19	White/Pink	Solenoid 6-b	12	6
20	Pink/Brown	Solenoid 7-b	12	7
21	White/Blue	Solenoid 8-b	12	8
22	Brown/Blue	Solenoid 9-b	12	9
23	White/Red	Solenoid 10-b	12	10
24	Brown/Red	Solenoid 11-b	12	11
25	White/Black	Solenoid 12-b	12	12

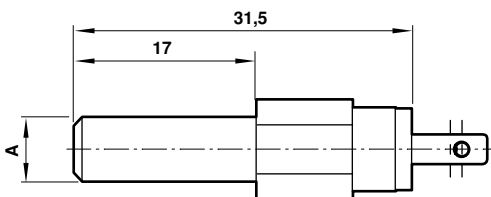
Note: Conforms to DIN 47100

Pressure switch

Model	A	Short code	kg
VM106517AQ0804	4	7A	0,004
VM106517AQ0806	6	7B	0,004



AMP E-terminals 2,8 x 0,8
Degree of protection: IP 00
Non adjustable
Pressure range: 0 to 10 bar
Switching point rising pressure: 3,0 to 5,0
Switch point falling pressure: 2,5 to 3,7 bar



PIN No.	Wire colour	Socket	Pilot	Station
1	White	Solenoid 1-a	14	1
2	Brown	Solenoid 2-a	14	2
3	Green	Solenoid 3-a	14	3
4	Yellow	Solenoid 4-a	14	4
5	Grey	Solenoid 5-a	14	5
6	Pink	Solenoid 6-a	14	6
7	Blue	Solenoid 7-a	14	7
8	Red	Solenoid 8-a	14	8
9	Black	Solenoid 9-a	14	9
10	Violet	Solenoid 10-a	14	10
11	Grey/Pink	Solenoid 11-a	14	11
12	Red/Blue	Solenoid 12-a	14	12
13	White/Green	Solenoid 13-a	14	13
14	Brown/Green	Solenoid 14-a	14	14
15	White/Yellow	Solenoid 15-a	14	15
16	Yellow/Brown	Solenoid 1-b	12	1
17	White/Grey	Solenoid 2-b	12	2
18	Grey/Brown	Solenoid 3-b	12	3
19	White/Pink	Solenoid 4-b	12	4
20	Pink/Brown	Solenoid 5-b	12	5
21	White/Blue	Solenoid 6-b	12	6
22	Brown/Blue	Solenoid 7-b	12	7
23	White/Red	Solenoid 8-b	12	8
24	Brown/Red	Solenoid 9-b	12	9
25	White/Black	Solenoid 10-b	12	10
26	Brown/Black	Solenoid 11-b	12	11
27	Grey/Green	Solenoid 12-b	12	12
28	Yellow/Grey	Solenoid 13-b	12	13
29	Pink/Green	Solenoid 14-b	12	14
30	Yellow/Pink	Solenoid 15-b	12	15
31	Green/Blue	Solenoid 16-a	14	16
32	Yellow/Blue	Solenoid 16-b	12	16
33	-	NOT USED	-	-
34	-	NOT USED	-	-
35	-	NOT USED	-	-
36	-	NOT USED	-	-
37	-	NOT USED	-	-
38	-	NOT USED	-	-
39	-	NOT USED	-	-
40	-	NOT USED	-	-
41	-	NOT USED	-	-
42	-	NOT USED	-	-
43	-	NOT USED	-	-
44	Red/Black Yellow/Black	Common -Ve	-	-













FOR PRICES, PLEASE CONTACT NORGREN

VM10 SERIES VALVE ISLANDS

Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings

Ø 3 mm, 4 mm, 6 mm

FIELDBUS ACCESSORIES

Symbol	Description	Connection	Cable length	Model	Short code
Fieldbus power connector					
	DeviceNet (4 pin, female)	M12	Wireable	V11588-E01	R1
	CANopen (4 pin, female)				
	AB RIO (4 pin, female)				
	Profibus-DP (4 pin, female)				
	Interbus-S (4 pin, female)				
Interlock power connector					
	DeviceNet or CANopen (44 pin, female)	D-Sub	1 m	V11570-E01	M1
			3 m	V11570-E03	M2
			5 m	V11570-E05	M3
Communication cable and connector					
	DeviceNet (5 pin, female)	M12	Wireable	V11589-E01	R2
	CANopen (5 pin, female)				
	AB RIO (5 pin, female)				
	Profibus-DP, reverse keyway (5 pin, male)	M12	Wireable	V11590-E01	R3
	Profibus-DP, reverse keyway (5 pin female)	M12	Wireable	V11591-E01	R4
	Profibus-DP connector (9 pin, male) with terminating resistor	D-Sub IP40	Wireable	V11654-E01	R0
	Profibus - DP terminating resistor	M12	-	V11592-E01	R6
	AS-interface power or communications (4 pin)	M12	Wireable	VE1ASCN1-M1200	R5
	Interbus-S (9 pin)	D-Sub	1 m	VE2FBC9P-9S010	F21
			3 m	VE2FBC9P-9S030	F22
			5 m	VE2FBC9P-9S050	F23
	Interbus-S (9 pin, male)	D-Sub	Wireable	VE2FBC9P-00000	F24
	Interbus-S (9 pin, female)	D-Sub	Wireable	VE2FBC9S-00000	F25
	Interbus-S terminating connector (9 pin male)	D-Sub	-	V11340-E03	R9

For pin information on wiring connections please refer to Fieldbus manual
FOR PRICES, PLEASE CONTACT NORGREN

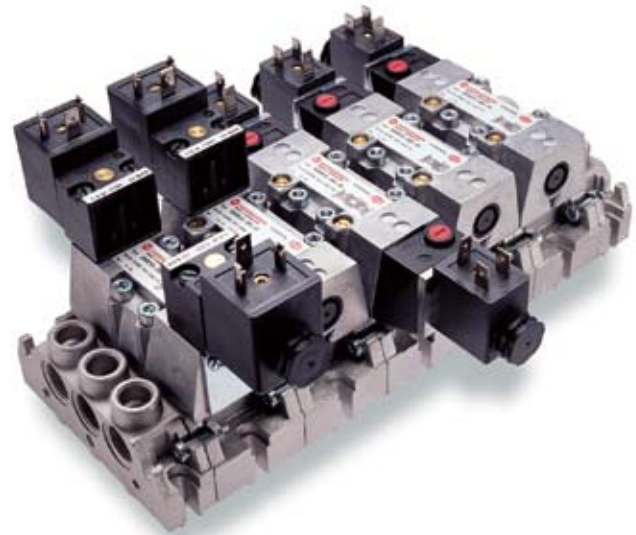
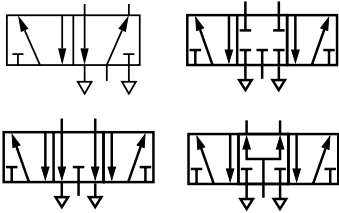
Valves

ISO ★STAR

Solenoid & pilot actuated spool valves

Sub-base

5/2 & 5/3, ISO #1 to ISO #3



Specially coated glandless spool and sleeve for long trouble-free life
 Low power solenoids feature manual override as standard
 Wide range of sub-bases and accessories

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated, non lubricated and dry.

Operating pressure:

Maximum 16 bar, see table for individual details.

Flow:

ISO #1 1230 l/min

ISO #2 2450 l/min

ISO #3 4400 l/min

Ambient temperature:

-15°C to +50°C solenoid models

-15°C to +80°C pilot models.

Consult our Technical Service for use below +2°C.

Solenoid pilot actuated valves

Size	Function	Actuation	Flow regulator	Mid position	End solenoid models Operating pressure (bar)	Model	Unit price (Rs)
ISO #1	5/2	Sol/Spring	-	-	1,8 ... 10	SXE9573-A71-00/***	4009
ISO #1	5/2	Sol/Sol	-	-	2 ... 10	SXE0573-A50-00/***	4703
ISO #1	5/3	Sol/Sol	Built-in	APB	2 ... 10	SXE9673-A60-00/***	4808
ISO #2	5/2	Sol/Spring	-	-	1,8 ... 10	SXE9574-A71-00/***	4409
ISO #2	5/2	Sol/Sol	-	-	2 ... 10	SXE0574-A50-00/***	4780
ISO #2	5/3	Sol/Sol	Built-in	APB	2 ... 10	SXE9674-A60-00/***	6045
ISO #3	5/2	Sol/Sol	-	-	2 ... 10	SXE0575-A50-00/***	6492
ISO #3	5/3	Sol/Sol	-	APB	2 ... 10	SXE9675-A50-00/***	7308

APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure.
 *** Insert voltage codes from correct table below. Order connector plugs separately.
 Manual override: Push to operate spring return, lockable

Voltage codes and spare coils for 10 bar solenoid models

Voltage	22 mm Coil with connector interface acc. to Industrial Standard			Unit price (Rs)
	Code	Power inrush/hold	Model	
24 V d.c.	13J	2 W	QM/48/127/21	370
110/120 V 50/60 Hz	18J	4/2,5 VA	QM/48/18J/21	370
220/240 V 50/60 Hz	19J	6/5 VA	QM/48/19J/21	370

Valves

ISO ★STAR

Solenoid & pilot actuated spool valves

Sub-base

5/2 & 5/3, ISO #1 to ISO #3




Air pilot actuated valves

Size	Function	Actuation	Operating pressure (bar)	Model	Unit price (Rs)
ISO #1	5/2	Pilot/Spring	-0,9 ... 16	SXP9573-170-00	2025
ISO #2	5/2	Pilot/Spring	-0,9 ... 16	SXP9574-170-00	3545
ISO #3	5/2	Pilot/Spring	-0,9 ... 16	SXP9575-170-00	4298



APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure. Service kits not available for these valves.

BASES

VDMA 24 345 sub-bases



	Form A Side ported	Unit price (Rs)	Form C Manifold	Unit price (Rs)	Form D End plates	Unit price (Rs)
						
ISO#1	M/P19126 (G1/4)	315	CQM/22152/3/21	670	CQM/22152/3/22	700
ISO#2	M/P19132 (G3/8)	710	CQM/22253/3/21	1025	CQM/22253/3/22	1295
ISO#3	M/P19138 (G1/2)	505	CQM/22354/3/21	1560	CQM/22354/3/22	1535

Universal base options

	Modular base Side & bottom ported	Unit price (Rs)	Transition plate	Unit price (Rs)
				
ISO#1	CQM/22152/3/27 (G1/4)	850	CQM/22152/3/29 (#1-#2)	2470
ISO#2	CQM/22253/3/27 (G3/8)	1290		

* All ports supplied blanked for optimum system configuration.

22 mm Plugs according to Industrial Standard or IP65

	Connector	Type	Cable length	Voltage a.c.	d.c.	Features	Model	Unit price (Rs)
	Plug with cable gland	22 mm Industrial standard	-	12 ... 250 V	12 ... 250 V	-	TS0210	95
	Indicator plug	22 mm Industrial standard	-	10 ... 50 V	10 ... 50 V	Lamp	M/P24121/1	325
	Indicator plug	22 mm Industrial standard	-	70 ... 110 V	70 ... 250 V	Neon	M/P24121/2	325
	Plug with cable gland and indicator	22 mm Industrial standard	-	150 ... 240 V	150 ... 240 V	Neon	M/P24121/3	325

Cylinder with integrated valve

conforms to ISO 6431, VDMA 24562 and NFE 49-003-1



Basic version

- Complete functional unit with LED display and multipole connection
- Available with cable or M12x1 connector, without switches
- Quick and simple installation
- Compact space saving unit
- Reduces machine design time
- One part number – simpler logistics

Multipole version

- Fieldbus compatible 24 V d.c.
- Hand held function available
- Quick and easy installation
- Integrated PCB with suppression

AS-Interface version

- Flexible open system
- Hand held function available
- Easy installation: Only 1 pneumatic and 1 electrical connection

Reciprocating version (air motor)

- Complete functional unit
- Integrated 5/2 valve
- Adjustable frequency and speed

Plug and work!

www.norgren.com/in

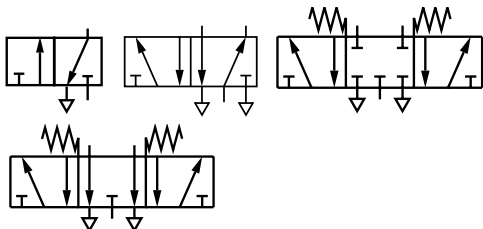
Valves

V60 - 63 SERIES

In-line valves

Solenoid and pilot actuated

3/2, 5/2, 5/3



High flow rate
Small volumetric size
Proven sealing system
Different manual override options as standard
Maintenance-free
Low power consumption (2 W)

3/2 valves, solenoid actuated

Function	Port size	Actuation	Pilot supply	Flow (l/min)	Operating pressure (bar)	Model	Unit price (Rs)
NC	G1/8	Sol/spring	Internal	750	2 ... 8	V60A417A-A2***	1590
NC	G1/4	Sol/spring	Internal	1300	2 ... 8	V61B417A-A2***	1730
NO	G1/8	Sol/spring	Internal	750	2 ... 8	V60A317A-A2***	1590
NO	G1/4	Sol/spring	Internal	1300	2 ... 8	V61B317A-A2***	1730

TECHNICAL DATA

Medium:

Compressed air, filtered to 50 µm, lubricated or non lubricated.

Operation:

Electromagnetically or pneumatically controlled

Connection:

G1/8 up to G1/2

Operating pressure:

1,5/2 up to 8/10 bar

Flow:

Size	3/2, 5/2	2 x 3/2, 5/3
G1/8	750	500
G1/4	1300	950
G3/8	2600	1900
G1/2	4200	2200 (5/3)

Ambient temperature:

-10°C to +50°C

Fluid temperature:

-10°C to +50°C

Consult our Technical Service for use below +2°C.

5/2 valves, solenoid actuated

Port size	Actuation	Pilot supply	Flow (l/min)	Operating pressure (bar)	Model	Unit price (Rs)
G1/8	Sol/spring	Internal	750	2 ... 8	V60A517A-A2***	2190
G1/4	Sol/spring	Internal	1300	2 ... 8	V61B517A-A2***	3070
G1/8	Sol/Sol	Internal	750	2 ... 8	V60A511A-A2***	2700
G1/4	Sol/Sol	Internal	1300	2 ... 8	V61B511A-A2***	3050

5/3 valves, solenoid actuated

Function	Port size	Actuation	Pilot supply	Flow (l/min)	Operating pressure (bar)	Model	Unit price (Rs)
APB	G1/4	Sol/Sol	Internal	950	3 ... 8	V61B611A-A2***	4485

*** Insert coil code from table below or 000 for version without solenoid. For manual override options, substitute '#' as follows:
2 = push and lock, 3 = push only.

APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure.

COIL & VOLTAGE CODES

22 mm coil industrial standard

Voltage	Coil code	Power inrush/hold	Model	Unit price(Rs)
24 V d.c.	13J	2 W	QM/48/127/21	370
110/120 V 50/60 Hz	18J	4/2,5 VA	QM/48/18J/21	370
220/240 V 50/60 Hz	19J	6/5 VA	QM/48/19J/21	370

Valves

V60 - 63 SERIES

In-line valves

Solenoid and pilot actuated

3/2, 5/2, 5/3

MANIFOLDS



Type	No. of stations	A	B	C	D	E	F	G	ØH	I	K	L	M	N	P	R	kg	Unit price(Rs)
V60																		
2639622	2	G1/4	76	32	22	14	90	106	6.5	2.5	60	16	G1/8	48	28	42	0.053	475
2639623	3	G1/4	108	32	22	14	122	138	6.5	2.5	60	16	G1/8	48	28	42	0.075	515
2639624	4	G1/4	140	32	22	14	154	170	6.5	2.5	60	16	G1/8	48	28	42	0.099	555
2639625	5	G1/4	172	32	22	14	186	202	6.5	2.5	60	16	G1/8	48	28	42	0.123	600
2639626	6	G1/4	204	32	22	14	218	234	6.5	2.5	60	16	G1/8	48	28	42	0.147	650

Bracket for manifold and blanking plug for unused station included.
From 7 to 12 stations also available on request

Type	No. of stations	A	B	C	D	E	F	G	ØH	I	K	L	M	N	P	R	kg	Unit price(Rs)
V61																		
2639422	2	G3/8	85	35	25	19	100	116	6.5	3	75	23	G1/4	57	35	50	0.130	670
2639423	3	G3/8	120	35	25	19	135	151	6.5	3	75	23	G1/4	57	35	50	0.192	690
2639424	4	G3/8	155	35	25	19	170	186	6.5	3	75	23	G1/4	57	35	50	0.250	750
2639425	5	G3/8	190	35	25	19	205	221	6.5	3	75	23	G1/4	57	35	50	0.309	827
2639426	6	G3/8	225	35	25	19	246	256	6.5	3	75	23	G1/4	57	35	50	0.367	915

Bracket for manifold and blanking plug for unused station included.
From 7 to 12 stations also available on request

22 mm Plugs according to Industrial Standard or IP65

Connector	Type	Cable length	Voltage a.c.	d.c.	Features	Model	Unit price (Rs)	
	Plug with cable gland	22 mm Industrial standard	-	12 ... 250 V	12 ... 250 V	-	TS0210	95
	Indicator plug	22 mm Industrial standard	-	10 ... 50 V	10 ... 50 V	Lamp	M/P24121/1	325
	Indicator plug	22 mm Industrial standard	-	70 ... 110 V	70 ... 250 V	Neon	M/P24121/2	325
	Plug with cable gland and indicator	22 mm Industrial standard	-	150 ... 240 V	150 ... 240 V	Neon	M/P24121/3	325

ACCESSORIES

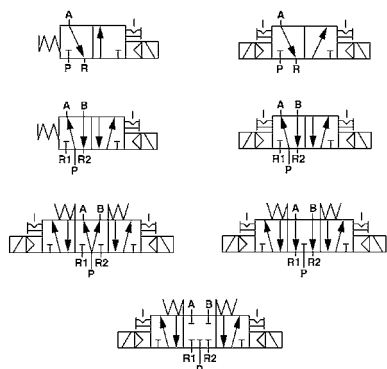
M/S Porous Plastic Silencers

Port size	BSPP Model	Unit Price (Rs)
1/8"	M/S1	70
1/4"	M/S2	95
3/8"	M/S3	145
1/2"	M/S4	315

Valves

V51 SERIES

3/2, 5/2 and 5/3 valves



Manifold system for easy assembly
Small volumetric size
High flow rate of 1000 l/min
Low power consumption – 2W coil
Lifetime of 10 million cycles
Inline and manifold mounting options
Proven solenoid technology in millions of applications

TECHNICAL DATA

Medium:

Compressed air, filtered to 40 µm, lubricated or non lubricated.

Operating pressure:

Softseal spool valve, solenoid pilot actuated

Mounting:

In-line or sub-base

Ports 1, 2+4:

G1/4

Operating pressure:

Details of minimum and maximum pressure see overleaf.

Flow characteristics:

755 to 1020 l/min

Ambient temperature:

-5°C to +50°C.

Consult our Technical Service for use below +2°C.

TECHNICAL DATA

Body/sub-base: aluminium alloy

Softseal spool: NBR/aluminium alloy

Mounting sheets/screws: steel

Springs: stainless steel

Accessories

Connectors	Unit price (Rs)	Blanking plate	Unit price (Rs)	Silencers, G1/4	Unit price (Rs)	Blanking plug	Unit price (Rs)
TS0210 (12 ... 250V a.c./d.c.)	95	T40C1800 1/8" Sintered bronze	70	V510351, 3/2 manifold	35	160050028, 14 BSP vlve ports	35
M/P24121/1 (15 ... 30 V d.c. LED, surge suppression)	325	M/S1 Plastic Sintered bronze	70	V510551, 5/2 manifold	35		
M/P24121/3 (150 ... 250 V a.c. gtim lamp)	325						

Solenoid actuated valves

Model	Function	Actuation	Operating pressure (bar)	Manual override	Weight (kg)	Drawing No.	Unit price (Rs)
V51B417A-A2***	3/2	Sol/spring	2 ... 8	Push & turn	0,20	1	1045
V51B411A-A2***	3/2	Sol/sol	2 ... 8	Push & turn	0,30	2	1900
V51B517A-A2***	5/2	Sol/spring	2 ... 8	Push & turn	0,19	3	1480
V51B511A-A2***	5/2	Sol/sol	2 ... 8	Push & turn	0,29	4	1785
V51B611A-A2***	5/3 APB	Sol/sol	3 ... 8	Push & turn	0,34	5	2925
V51B711A-A2***	5/3 COE	Sol/sol	3 ... 8	Push & turn	0,34	5	2925
V51B811A-A2***	5/3 COP	Sol/sol	3 ... 8	Push & turn	0,34	5	2925

*** Insert coil code from following table.

Coil codes

Coil code	Voltage	Unit price (Rs)
13J	24 V d.c.	370
18J	110/120 V, 50/60 HZ	370
19J	220/240 V, 50/60 HZ	370

Electrical details

for solenoid operators

Voltage tolerances	+/- 10%
Rating	100 % Continuous duty
Inlet orifice	0,8 mm
Materials	PPS (body), Viton and NBR (seal)
Insulation class	F class
Connector type	22 mm industrial standard
Protection class	IP65

Manifold system

Manifold for 5 port valves	Function	Unit price (Rs)	Manifold for 3 port valves	Function	Unit price (Rs)
V51B3.. *1)			V51B5..*1)		
V51B502	2 Station	798	V51B302	2 Stations	545
V51B503	3 Station	1024	V51B303	3 Stations	770
V51B504	4 Station	1253	V51B304	4 Stations	990
V51B505	5 Station	1479	V51B305	5 Stations	1215
V51B506	6 Station	1707	V51B306	6 Stations	1440
V51B507	7 Station	1919	V51B307	7 Stations	1665
V51B508	8 Station	2162	V51B308	8 Stations	2065
V51B509	9 Station	2374	V51B309	9 Stations	2310
V51B510	10 Station	2617	V51B310	10 Stations	2555

*1) Number of station 02 ... 09 for 2 ... 9 stations
 Number of station 10 for 10 stations

Please add the price of the coil and connector to get the complete price or order them separately.

Valves

SUPER X

Manually & mechanically actuated spool valve

In-line

3/2, 5/2, G1/8, G1/4



Wide range of operators
Suitable for multi-directional
flow and dual supply applica-
tions
High flow capacity
Lightweight corrosion resistant
materials

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated
and non-lubricated

Operating pressure:

Maximum 10 bar.

Flow:

Size l/min

G1/8 335

G1/4 965

Ambient temperature:

0°C to +70°C.

Consult our Technical Service for use below +2°C.

Mechanical

Port size	Function	Actuation	kg	Model	Unit price(Rs)
G1/8	3/2	Roller /Spring	0,14	03 0402 02	980
G1/8	3/2	One-way trip /Spring	0,21	03 0410 02	2010
G1/8	3/2	Roller lever /Spring	0,21	03 0411 02	2010
G1/4	3/2	roller /spring	0,34	03 0602 02	1300

Manual

Port size	Function	Actuation	kg	Model	Unit price(Rs)
G1/8	3/2	button/ spring Manual	0,15	03043702	890
G 1/8	3/2	Button (shrouded) /spring Manual	0,21	03041402	1950
G 1/8	3/2	Rotary knob/rotary knob Manual	0,29	03041902	2050
G 1/8	3/2	knob/knob Manual	0,17	03042502	975
G 1/8	3/2	Lever/lever Manual	0,29	03043702	2550
G 1/8	3/2	Pedal/spring Manual	1,03	03048102	1970
G 1/8	3/2	Pedal/pedal Manual	1,07	03048302	3060
G 1/8	5/3	lever/lever/lever Manual	0,4	X3047702	2225
G 1/8	5/2	Pedal/ Spring Manual	1,12	X3048202	2080

Proportional control technology



Options...

The VP range of proportional valves is the most comprehensive range of products on offer from any pneumatic supplier. From 100 l/min to 17000 l/min; from 1 bar to 20 bar; from compact to high flow applications – the Norgren range has it all.

Choice...

Proportional technology can be used to control pressure, flow, force and position. Norgren proportional valves are used in car plants to control spot welding, paint spray or adhesive dispense; they are used in laboratories to control sensitive sampling equipment or on paper and textile machines to control the tension where high accuracy maximises system performance and end product quality.

Open loop integrated control

Open loop pressure controllers give the user basic pressure control at a minimum cost.

Closed loop control

Another level of outstanding features includes the addition of integral feedback and control electronics. Closed loop pressure control is a truly state of the art solution and all our closed loop valves incorporate leading edge technology with the features to match.

VP10 - Open loop

Accurate regulator with excellent linearity and low hysteresis, loop powered versions – ideal for low flow and low dynamic applications.

VP21 - Closed loop

The complete family with a wide range of sizes and options. The VP21 gives control up to 16 bar and 15000 l/min – suitable for nearly every application

VP22 - Closed loop

Direct acting proportional valve with high accuracy and suitable for high speed applications e.g. booster piloting

VP40 - Open loop

Flexible solution for many applications. Flow up to 1900 l/min and pressure up to 20 bar

VP50/51 - Closed loop

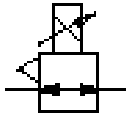
Low power technology gives efficient operation up to 10 bar at 1200 l/m. VP51 with digital parameter adjustment and display

See following pages for full product details

VP10 SERIES

Proportional pressure control valve

G1/4



Robust proportional I/P and E/P converters Suitable for a wide range of applications
High accuracy
High flow versions available
IP 65 protection in normal operation



TECHNICAL DATA

Medium:

Compressed air filtered to 5 µm,
oil-free, dry

Output signal:

0,2 to 1,0 bar, 0,2 bar, 0,2 to 4,0 bar (2 wire version),
0,14 to 6 bar, 0,14 to 8 bar (3 wire version).

Flow:

Up to 300 l/min

Air consumption:

<4 bar: 0,85 l/min typical at 50% signal
>4 bar: 1,75 l/min typical at 50% signal

Operating pressure:

At least 0,7 bar above maximum required output pressure range

Ambient temperature:

-40°C to +85°C

Consult our Technical Service for use below +2°C.

Mounting:

Integral surface mounting bracket provided for preferred vertical mounting. 50 mm pipe mounting kit available

Response time:

<2 bar: less than 0,5 seconds

(dependent on input for 10 to 90% step change and outlet pressures)

>2 bar: 2 seconds for 10 to 90% step change

Total error:

±0,5% off span (typical, independent error includes the combined effect of non-linearity, hysteresis, deadzone and repeatability)

Temperature effect:

Average 0,1% span/°C for span and zero over operating range

Supply sensitivity:

< 0,075% span output change per % supply pressure change

Failure mode:

Signal falls to bleed pressure when electrical supply fails

Weight:

0,825 kg

MATERIALS

Body: passivated zinc die-casting, epoxy painted
Diaphragms: nitrile

Internal: beryllium copper/brass

Flapper nozzle and supply valve: stainless steel/nylon

Control signal	Output pressure (bar)	Model	Unit price (Rs)
4 ... 20 mA	0,2 ... 1	VP1001B J400A00	18500
0 ... 10 V	0,2 ... 2	VP1002B J100A00	18500
4 ... 20 mA	0,2 ... 2	VP1002B J400A00	18500
4 ... 20 mA	0,2 ... 4	VP1004B J400A00	18500
0 ... 10 V	0,14 ... 8	VP1008B J101A00	18500
4 ... 20 mA	0,14 ... 8	VP1008B J401A00	18500

Other options available:

Intrinsically safe versions

0...10V versions for all outlet pressures

Bigger port sizes up to 3/4 with high flow rates

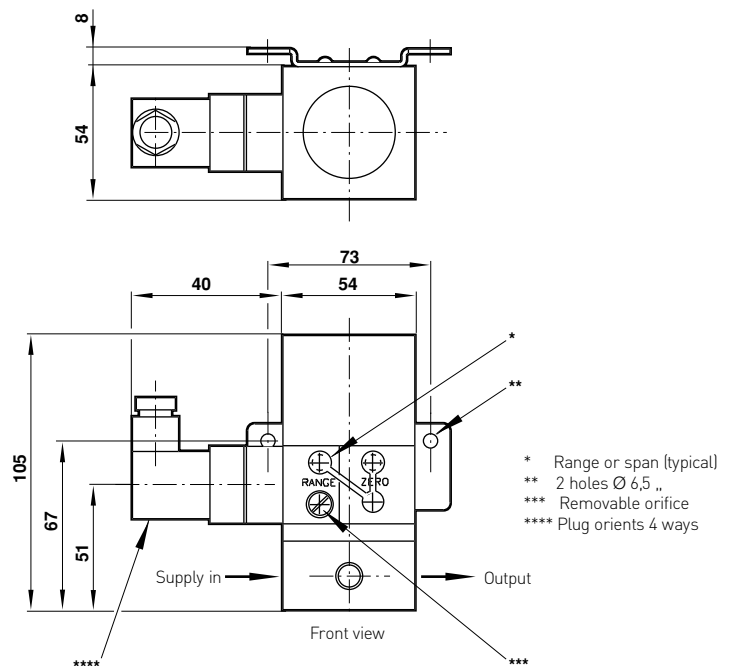
Higher outlet pressures up to 20 bar

Closed loop versions

FOR PRICES, PLEASE CONTACT NORGREN

Electrical information

Electromagnetic compatibility	This is a passive electromagnetic instrument and is unaffected by interfering high frequency signals
Electrical signal	Two wire version 4 to 20 mA or 0 to 10 V Three wire version requires 12 to 21 V d.c. supply
Connections	30 mm square connector DIN 43650 provided, mountable in four directions (alternative connections available)

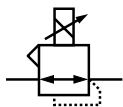


Valves

VP12

Miniature proportional valve

G1/8



Proven low power technology
Reliable, rugged, open-loop device
Compact and flexible design
Excellent performance characteristics
Output pressures up to 8 bar

TECHNICAL DATA

Medium:

Oil free, dry air, filtered to 5 µm

Flow:

up to 200 l/min

Output pressure:

0 to 1 bar (0 to 15 psi), 0 to 2 bar (0 to 30 psi), 0 to 4 bar (0 to 60 psi), 0 to 6 bar (0 to 90 psi), 0 to 8 bar (0 to 120 psi)

Supply pressure:

Minimum 1,5 bar (22 psi) above maximum output pressure (10 bar (150 psi) maximum)

Ambient temperature:

0°C to +60°C

Consult our Technical Service for use below +2°C.

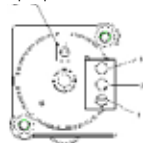
Control signal	Output pressure (bar)	Model	Unit price (Rs)
4 ... 20 mA	0 ... 4	VP1204BG401Q00	13000
0 ... 10 V	0 ... 4	VP1204BG101Q00	13000
4 ... 20 mA	0 ... 8	VP1208BG401Q00	13000
0 ... 10 V	0 ... 8	VP1208BG101Q00	13000

Electrical information

Electromagnetic compatibility	CE marked: conforms to EC requirements EN 50081-2 (1994) and EN 50082-2 (1995)
Electrical input signal	4 to 20 mA or 0 to 10 V factory set
Electrical power input	24 V d.c. ±25% (power consumption < 1 W)
Connections	3 wire terminal block

Instrument pin configuration

Span pot



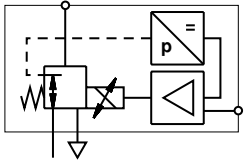
1	+24 V d.c. supply (+ve)
2	Control signal (+ve)
3	Common (d.c. supply, signal and feedback return) (-ve)

FOR PRICES, PLEASE CONTACT NORGREN

VP50 SERIES

Proportional pressure control valve

G1/4



Closed loop air pilot operated proportional pressure control valve
Adjustable for a wide range of applications
Fast response
Low power consumption
High flow

TECHNICAL DATA

Medium:

Compressed air filtered to 50 µm, non-lubricated

Supply pressure:

14 bar max.

Flow:

Up to 1200 l/min at 11 bar supply pressure

Ambient temperature:

-20°C to +50°C

Consult our Technical Service for use below +2°C.

Control signal	Output pressure (bar)	Model	Unit price (Rs)
0 ... 10 V	0 ... 10	VP5010BJ111H00	16800
4 ... 20 mA	0 ... 10	VP5010BJ411H00	16800
0 ... 10 V	0 ... 2	VP5002BJ111H00	16800
4 ... 20 mA	0 ... 2	VP5002BJ411H00	16800

ACCESSORIES

Connector with 5 m moulded cable	Unit price (Rs)
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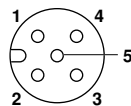
0250081 0000 00000

1895

Electrical information

Electromagnetic compatibility	CE marked: conforms to EC requirements EN 50081-2 (1994) and EN 50082-2 (1995)
Electrical input signal	4 to 20 mA or 0 to 10 V factory set
Electrical power input	24 V d.c. ±25% (power consumption < 1 W)
Output pressure feedback signal	0 ... 10 V full range
Connections	M12 5 pin

Instrument pin configuration



1	+24 V d.c. supply
2	0 to 10 full range
3	Control signal (+ve)
4	Common (DC supply, signal and feedback return)
5	Chassis (earth)

Other options available:

VP51 series programmable proportional valves with LED display

Higher outlet pressure range

Bigger sizes with higher flow rates version available

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Fluid control solutions

Norgren is a leading global supplier of Fluid control solutions with proven products widely accepted by manufacturers and users worldwide.

The winning combination of Norgren, Herion and Buschjost expertise and technology brings you all the benefits of many years of specialized experience and understanding of the process industry applications.

Norgren is committed to providing added value through machine and process improvement and this is further backed by our commitment to provide an unequalled service which is customized to meet the specific needs of our individual customers.

At the heart of this service is the capability to design and engineer added-value, integrated solutions to answer the most demanding applications challenges.

A new Fluid Control catalogue will be available soon. You can visit www.norgren.com for more information on these products.





24011/24010 solenoid valves, Namur and In-line with TÜV Approval IEC 61508



97105 Series indirect solenoid valves, Namur and In-line for -40°C



Pressure actuated angle seat valves



Click-on® piston valves

- Control flow of air, water, oil and other fluids and gases
- 2/2 and 3/2 valves
 - ~ Diaphragm and piston seat type
 - ~ Pressure range up to 40 bar (specials up to 70 bar); medium temperature -196°C up to +200°C
 - ~ Can be operated by solenoid, by air-driven actuator and by motor drive
 - ~ In-line and Namur versions
 - ~ Threaded connections 1/4 to 3 inches (BSP or NPT) and flanged connections 1/2 to 6 inches (DIN or ANSI)
 - ~ Low power consumption options (5 mW and 50 mW)
 - ~ Bodies in brass, grey cast iron, cast and stainless steel, gun metal, plastic, anodised aluminium
- Options suitable for hazardous areas
- Models for Emergency Shut-off Applications
- Control systems
- BUS – Technology
- Valve systems (manifold or fitted with pipes)
- Customized standard products and special designs



Approvals

- TÜV approval, including risk analysis for petrochemical plants
- Ex-approvals worldwide

Solenoids, with ATEX approval in protection classes: EEx m II T4, EEx me II T3/4, EEx de II C T4/5, EEx md, Eex na, Eexia. NI, IS, XP



Motorised valves



Dust filter valves pressure actuated



Click-on® diaphragm valve



Twist-on® Dust filter valves solenoid actuated

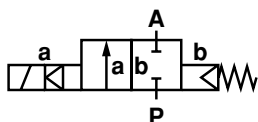
Valves

BUSCHJOST 82400 SERIES

Indirect solenoid actuated diaphragm valves

8 to 50 mm orifice (ND)

2/2, NC, G¹/₈ to G2



High flow rate
Damped operation
Clear compact design
Solenoid interchangeable without tools (Click-on®)
Particularly suitable for use as water valve in accordance with DIN EN 60730-2-8

TECHNICAL DATA

Medium:
Neutral gases and liquid fluids

Flow direction:
Fixed

Mounting position:
Optional, preferably with solenoid upright

Fluid temperature:
-10°C to +90°C max.

Ambient temperature:
+50°C max.

MATERIALS

Body: brass
Seat seal: NBR (Perbunan)
Internal parts: stainless steel, PVDF

For contaminated fluids installation of an upstream filter is recommended.

Orifice (mm)	Port size	Operating pressure (bar)	kv value m ³ /h	Total weight (kg)	Type d.c. or a.c. solenoid	Unit price (Rs)
8	G 1/4	0,1 ... 16	1,90	0,47	8240000xxxx*****	2275
10	G 3/8	0,1 ... 16	3,00	0,45	8240100xxxx*****	2318
12	G 1/2	0,1 ... 16	3,80	0,50	8240200xxxx*****	2530
20	G 3/4	0,1 ... 16	6,10	0,65	8240300xxxx*****	3900
25	G 1	0,1 ... 16	9,50	0,95	8240400xxxx*****	4190
40	G 1½	0,1 ... 10	25,00	2,53	8240600xxxx*****	6685
50	G 2	0,1 ... 10	41,00	3,85	8240700xxxx*****	9685

xxxx Insert solenoid codes from table below.(solenoid price already included in the valve price)
*****Insert voltage codes from table below.

Ex. 8240000910102400: 8mm orifice valve (Voltage: 24V d.c.) with solenoid actuator (9101)
Other versions available on request. Please refer to the Norgren year book.

Normally open

Orifice (mm)	Port size	Operating pressure (bar)	kv value m ³ /h	Total weight (kg)	Type d.c. or a.c. solenoid	Unit price (Rs)
8	G 1/4	0,1...16	1,90	0,47	8240001****	3130
12	G 1/2	0,1...16	3,80	0,50	8240201****	3385

xxxx Insert solenoid codes from table below.(solenoid price already included in the valve price)
*****Insert voltage codes from table below.

Ex. 8240001910102400: Normally open 8mm orifice valve (Voltage: 24V d.c.) with solenoid actuator (9101)
Other versions available on request. Please refer to the Norgren year book.

Voltage codes

Voltage	Substitute
24 V d.c.	02400
230 V a.c.	23050

Type-tested up to 25 mm orifice size in accordance with DIN EN 60730-2-8
Solenoid valves
Test institute
TÜV Rheinland / Brandenburg



SOLENOID ACTUATORS

	Power consumption		Voltage		Protection class	Temperatures °C		Electrical connection	Model	Unit price (Rs)
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)		Fluid*	Ambient**			
	8	15/12	333	52	IP 65	+90 max.	-25 ... +50	DIN EN 175301-803	9101	1350

* The maximum temperature depends on the valve type
** The maximum temperature may be higher, depending on the application.

Version as per VDE 0580, duty cycle 100%.

Power consumption with coil temperature of +20°C. With the solenoid coil at operating temperature (d.c.), the power consumption is up to 30% lower for physical reasons

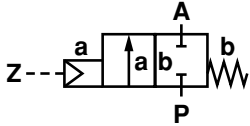
Valves

BUSCHJOST 84500 / 84520 SERIES

Pressure actuated angle seat valves

15 to 50 mm orifice (ND)

2/2, G1/8 to G2



- Interchangeable for NC, NO or double acting functions
- Visual position indicator is standard
- Damped closing (valve closes against flow direction)
- Suitable for contaminated flow fluids
- Suitable for vacuum up to max. 90%
- Reversed flow direction optional
- High flow rate
- Liquid pilot fluids possible



TECHNICAL DATA

Medium:

Neutral gases and liquid fluids (84500 Series)

Aggressive gases and liquid fluids (84520 Series)

Flow direction:

Fixed

Mounting:

Optional

Fluid temperature:

-10°C to +180°C max.

Ambient temperature:

-10°C to +60°C max.

Pilot fluid:

Neutral gases

Pilot fluid temperature:

+60°C max.

MATERIALS

Valve

Body: brass CW602N (84500 Series), stainless steel (84520 Series)

Seat seal: PTFE

Internal parts: brass, stainless steel

Seal packing: Teflon (PTFE)/Viton (FPM)

Actuator

Body: polyamide 66 with glass fibre 30%

Seals: NBR

Internal parts: brass, stainless steel

Normally closed : Brass Body

Orifice (mm)	Port size	Operating pressure (bar)	Pilot pressure (bar)	kv value (m³/h)	kg	Model	Unit price (Rs)
15	G1/2	0 ... 16,0	3,5 ... 10	4,8	1,4	8450200 0000	6650
20	G3/4	0 ... 10,0	3,5 ... 10	10	1,5	8450300 0000	7145
25	G1	0 ... 10,0	3,5 ... 10	14	1,8	8450400 0000	7595
40	G1½	0 ... 4,5	3,5 ... 10	30	2,7	8450600 0000	9680
50	G2	0 ... 3,0	3,5 ... 10	37	3,9	8450700 0000	16530

Normally open : Brass Body

Orifice (mm)	Port size	Operating pressure (bar)	Pilot pressure (bar)	kv value (m³/h)	kg	Model	Unit price (Rs)
15	G 1/2	0...16	3,5...10	4,8	1,4	82402010000	8020
25	G 1	0...10	3,5...10	14	1,8	84504010000	9300

Normally closed : Stainless Steel Body

Orifice (mm)	Port size	Operating pressure (bar)	Pilot pressure (bar)	kv value (m³/h)	kg	Model	Unit price (Rs)
15	G 1/2	0...16	3,5...10	4,8	1,4	82402010000	11615
25	G 1	0...10	3,5...10	14	1,8	84504010000	14740

Other option available

Metal /S.S. Actuators

Higher operating pressures

Full range normally open/S.S. valves components 2

NPT threads

Gun metal valve bodies

Butt welded valves

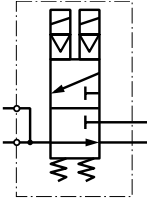
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Valves

XSZ SAFETY VALVES

Fail-safe double valves

3/2, G1/4 to G2



XSz 8



XSz 20

- Inherently fail-safe without residual pressure
- Dynamic self monitoring
- Double valve control system
- For use with pneumatic clutch and brake systems and other 3-way safety functions
- Poppet design with feedback signal ports
- Fast exhaust capability
- Conforms to EN 692, BG, OSHA, SUWA and other approvals
- Improves safety and reduces downtime on mechanical power press applications
- Quick and easy adjustment of 'overlap' on mechanical presses
- No additional electrical monitoring required
- Easily fitted into existing systems

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operating pressure:

Size 8: 3 to 10 bar

Size 10: 2 to 10 bar

Size 20/32/50: 2 to 8 bar

Ambient temperature:

-10°C to +60°C

Consult our Technical Service for use below +2°C.

MATERIALS

Body: aluminium

Seals: polyurethane and NBR

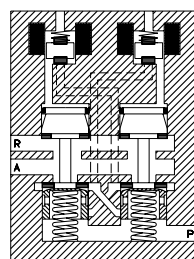
For full details of our press ancillary equipment please contact our Technical Service.

Type	Voltage	Port size				Model G-thread	Unit price (Rs)
		P	A	A1	R		
XSz 8	24 V d.c.	1/4"	1/4"	-	1/4"	2492806305202400	12,500
	110 V a.c.	1/4"	1/4"	-	1/4"	2492806305211050	12,500
	24 V a.c.	1/4"	1/4"	-	1/2"	2492806305202450	12,500
	230 V a.c.	1/4"	1/4"	-	1/2"	2492806305223050	12,500
XSz 10	230 V a.c.	1/2"	1/2"	(1/2")	3/4"	2492900020023050	18,800
	110 V a.c.	1/2"	1/2"	(1/2")	3/4"	2492900020011050	18,800
	24 V a.c.	1/2"	1/2"	(1/2")	3/4"	2492900020002450	18,800
	24 V d.c.	1/2"	1/2"	(1/2")	3/4"	2492901020002400	18,800
XSz 20	110 V a.c.	1/2"	1/2"	(1/2")	3/4"	2492901020011050	18,800
	24 V a.c.	1/2"	3/4"	(1")	1"	2493000080002450	77,000
	24 V d.c.	1/2"	3/4"	(1")	1"	2493000080002400	77,000
	230 V a.c.	1/2"	3/4"	(1")	1 1/4 inch	24930000800023050	77,000
	24 V a.c.	3/4"	3/4"	(1")	1 1/2 inch	2493040080002450	79,000
	110 V a.c.	3/4"	3/4"	(1")	2 inch	2493040080011050	79,000
XSz 32	24 V d.c.	3/4"	3/4"	(1")	2 inch	2493040080011050	79,000
	24 V d.c.	3/4"	(3/4")	1"	-	2493042080002400	83,000
	110 V a.c.	1"	1"	-	-	2493130080011050	95,000
	230 V a.c.	1"	1"	-	-	2493130080023050	95,000
	24 V a.c.	1"	1"	-	-	2493130080002450	95,000
	24 V d.c.	1"	1"	-	-	2493130080002400	95,000
	24 V d.c.	1"	1"	1 1/2"	-	2493134080002400	105,000
	24 V a.c.	1"	1"	1 1/2"	-	2493134080002450	105,000
XSz 50	110 V a.c.	1"	1"	1 1/2"	-	2493134080011050	105,000
	230 V a.c.	1 1/2"	2"	-	-	2493230080023050	119,000
	110 V a.c.	1 1/2"	2"	-	-	2493230080011050	119,000
XSz 50	24 V d.c.	1 1/2"	2"	-	-	2493230080002400	119,000

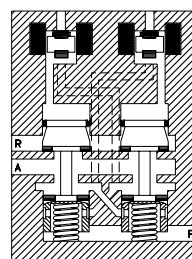
**** Insert voltage codes from table below.
 Port sizes in brackets are plugged.
 Supplied without plug. If required, select model 0570275,
 XSz 8 supplied along with silencer, For other models, silencers to ordered separately

Voltage codes

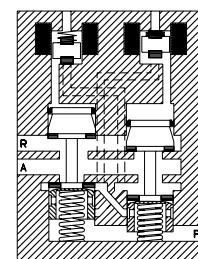
Voltage	Code
24 V d.c.	02400
24 V a.c.	02450
110 V a.c.	11050
230 V a.c.	23050



Neutral position



Activator position



Malfunction position

P = Air pressure port. A = Power port (clutch / brake). R = Exhaust

ADDITIONAL RANGES

XSZ SAFETY SILENCER – FLANGE CONNECTION

Can be mounted directly to the valve
 Direct flange mounting
 Low weight
 Small size
 Meets requirements contained in the safety regulations
 The free passage inside the silencer eliminates possible obstruction

Type	Model	Unit price(Rs)
XSz 10/XSz 10 V	0016422000000000	5,210
XSz 20	0016522000000000	9,560
XSz 32	0016622000000000	9,560



XSZ DAMPING MODULE – SOFT START

Compact design
 Simple installation
 Reduction wear and tear
 Noise-reduction
 The soft start valve can be used for a soft engagement of the pneumatically operated clutch on presses and also for a soft pressure build-up on a machine. It can be directly flanged on port 1 (P) of the safety valve XSz-32 and with an adapter plate on the XSz 50. It has an interchangeable bypass orifice to adapt to individual operating conditions.

Operating pressure (bar)	Control pressure (bar)	Smooth start	Voltage	Model	Unit price (Rs)
0,6 ... 8	0,6 ... 8	From 2 bar	d.c.	1020113070023050	124,260
0,6 ... 8	0,6 ... 8	From 2 bar	d.c.	1020113070002400	124,260
0,6 ... 8	0,6 ... 8	From 0 to 2 bar	a.c.	1020113370323050	124,880
0,6 ... 8	0,6 ... 8	From 0 to 2 bar	a.c.	1020113370311050	124,880
0,6 ... 8	0,6 ... 8	From 0 to 2 bar	a.c.	1020141080002400	143,020
0,6 ... 8	0,6 ... 8	From 0 to 2 bar	a.c.	1020141380323050	143,640
0,6 ... 8	0,6 ... 8	From 0 to 2 bar	a.c.	1020141380311050	143,640

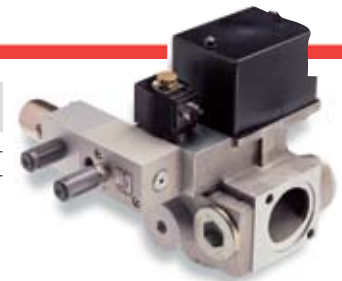
Adapter plate for flanged version, type XSz 50, model 0557164
 All solenoids are delivered without plugs. If required, select model 0570275.



XSZ DAMPING MODULE – SOFT STOP

Compact design
 Adapts easily to prevailing operating conditions
 Reduction of noise, wear and tear
 The soft stop valve can be used for a soft engagement of the pneumatically operated brake on presses and for a soft pressure drop on a machine. It is connected downstream of the safety valve and functions as a 2/2 directional control valve which is normally open. The switching position is monitored via a mechanical or proximity switch. The soft stop valve can be directly flanged on port 3 (R) of the safety valves XSz 32 and XSz 50.

Control pressure (bar)	Type	Voltage	Model
2 ... 8	XSz 32	a.c./d.c.	1022023.0200
2 ... 8	XSz 50	a.c./d.c.	1022035.0800



FAILURE INDICATION ELEMENTS FOR XSZ SAFETY VALVES

Although the XSz safety valves do not require an external electrical monitoring to fulfil the safety function, some applications need to have a visual electrical or acoustic signalling of a malfunction. This can be achieved by failure indication elements mounted on the XSz safety valve.

Pressure switch



Failure indication module



Pressure balance



Description	Model	XSz8	XSz 10	XSz 20	XSz32	XSz 50	XSz 10 V	Notes	Unit price (Rs)
Pressure switch	0881400	●	●	●	●	●*	●	Switches every time the valve switches, response time dependent on the valve	5,640
Failure indication	1028063	●	●	●	●	●	●	Switches only in case of malfunction	12,520
Pressure balance	1028100				●	●		For separately used clutch and brake	28,150

* Mounting only possible with flange model 0545005

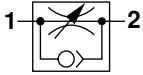
Valves

T1000 SERIES

Block form flow regulators

Uni-directional

M5, 1/8" to 1/2" BSPP



Compact size/low weight/ in-line units

High flow performance

Suitable for panel and wall mounting

Adjustment can be locked

Captive regulator needle will not blow out when unscrewed

Adjusting knob position line



TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated or non-lubricated, inert gases

Operating pressure:

1 to 10 bar (0,3 to 10 bar for M5)

Ambient temperature:

-20°C to +80°C

Consult our Technical Service for use below +2°C.

MATERIALS

M5:

Body: aluminium

Seals: nitrile

Needle: brass

1/8, 1/4, 3/8, 1/2:

Body: aluminium alloy

Seals: nitrile

Needle & internal parts: brass

External parts: aluminium alloy

Port size	Max. regulated flow factor		Free flow factor		Opening pressure (bar)	kg	Model	Unit price (Rs)
	C*	Cv	C*	Cv				
M5	0,28	0,07	0,28	0,07	0,3	0,020	T1000M0500	330
1/8	0,57	0,14	1,50	0,37	<0,1	0,031	T1000C1800	430
1/4	1,30	0,32	2,80	0,69	<0,1	0,056	T1000C2800	530
3/8	4,80	1,17	6,70	1,64	<0,1	0,150	T1000C3800	1140
1/2	7,50	1,84	8,30	2,00	<0,1	0,180	T1000C4800	1280

*C: measured in dm³/(s.bar)

Other options available :

Push-in type straight flow regulators, uni-directional

Push-in type elbow banjo type flow regulators

Block forms bi-directional flow regulators

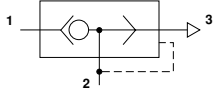
FOR PRICES, PLEASE CONTACT NORGREN

Valves

T70, SERIES

Quick exhaust valves

1/8 to 1/2" BSPP



Enables air to be exhausted quickly from air reservoirs and cylinders.

Allows higher cylinder speeds to be achieved.

Simple, compact design and construction.

Very reliable in operation.

Port size BSPP	Flow [1 ... 2]**		Flow [2 ... 3]**		kg	Model	Unit price (Rs)
	C*	Cv	C*	Cv			
G1/8	3,8	0,9	7,3	1,8	0,15	T70C1800	550
G1/4	7,7	1,9	10	2,5	0,13	T70C2800	620
G3/8	15,5	3,8	22,5	5,5	0,21	T70C3800	1125
G1/2	21,5	5,3	24	5,9	0,19	T70C4800	1240

* C = dm³/(s.bar) ** Flow factor measured at 6 bar inlet pressure

‡ Seals and silencer element included

TECHNICAL DATA

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operating pressure:

0,5 to 10 bar (T70)

Ambient temperature:

-20°C to +80°C.

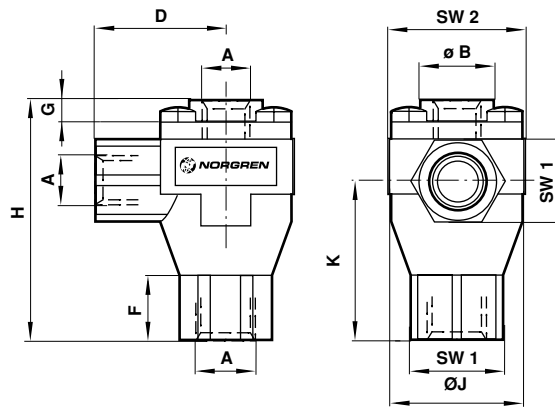
Consult our Technical Service for use below +2°C.

MATERIALS

Body & cover: zinc alloy (T70*1800 & T70*2800, S/513), aluminium alloy (T70*3800 & T70*4800)

Seals: nitrile (T70),

O-ring: nitrile



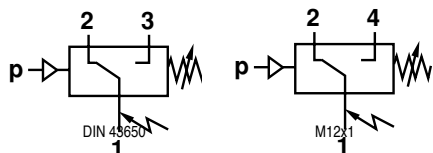
Model	A	ØB	D	F	G	H	ØJ	K	SW1	SW2
T70C1800	G1/8	19	28	15,5	3,5	53	29	35,5	19	30
T70C2800	G 1/4	19	28	15,5	3,5	53	29	35,5	19	30
T70C3800	G 3/8	30	40	15,5	4	73,5	46	48	30	46
T70C4800	G 1/2	30	40	15,5	4	73,5	46	48	30	46

Pressure switches

18 D SERIES

Pneumatic pressure switches

0,2 to 30 bar



Gold-plated contacts
High cycle life
Vibration resistant to 15 g
Microswitch approved by UL and CSA
Intrinsically safe operation
Direct interface to Excelon air line units

Electrical connection DIN 43650*

Port size	Type	Pressure range (bar)	Switching pressure difference (bar)**	Model	Unit price (Rs)
G1/4	Female	-1...0	0,15 ... 0,18	0880100	4385
G1/4	Female	0,2 ... 2	0,15 ... 0,27	0880200	4385
G1/4	Female	0,5 ... 8	0,25 ... 0,65	0880300	3495
G1/4	Female	1 ... 16	0,30 ... 0,90	0880400	3495

* Standard plug supplied (except where marked #) ** Typical values # Free of substances that may affect paint spray applications

TECHNICAL DATA

Medium:

Neutral, gaseous and liquid fluids

Operation:

Diaphragm

Mounting position:

Optional

Operating pressure:

0,2 to 30 bar

Over pressure:

80 bar max.

Ambient temperature:

-10°C to +80°C

Consult our Technical Service for use below +2°C.

Electrical connection M12 x 1*

Port size	Type	Pressure range (bar)	Switching pressure difference (bar)**	Model	Unit price (Rs)
G1/4	Female	0,5 ... 8	0,25 ... 0,65	0880360 #	3710
G1/4	Female	1 ... 16	0,30 ... 0,90	0880460 #	3710

* Max. voltage 30 V, plug M12 x 1 not supplied, if required see table

** Typical values # Free of substances that may affect paint spray applications

PORTING BLOCKS

Adaptor for use with Excelon 72, 73, 74 air preparation systems



Series	Model	Unit price (Rs)
Excelon 72	0523109	1715
Excelon 73 & 74	0523110	1740

Load level	Type of current	Type of load	Umin [V]	Maximum permanent current					Imax [A] at U [V]	Contact life
				30	48	60	125	250		
Standard * (e.g. contractors, solenoids)	a.c.	Resistive load	12	5	5	5	5	5	Switching cycles >10 ⁷	
	a.c.	Inductive load, cos ≈ 0,7	12	3	3	3	3			
	d.c.	Resistive load	12	5	1,2	0,8	0,4	-		
	d.c.	Inductive load, L/R ≈ 10 ms	12	3	0,5	0,35	0,05	-		
Low ** (e.g. electronic circuits)	a.c.	Resistive load	5#	0,34	0,2	0,17	0,08	0,04	Switching cycles >10 ⁷	
	d.c.	Inductive load, L/R ≈ 10 ms	5#	0,1	0,01	-	-	-		

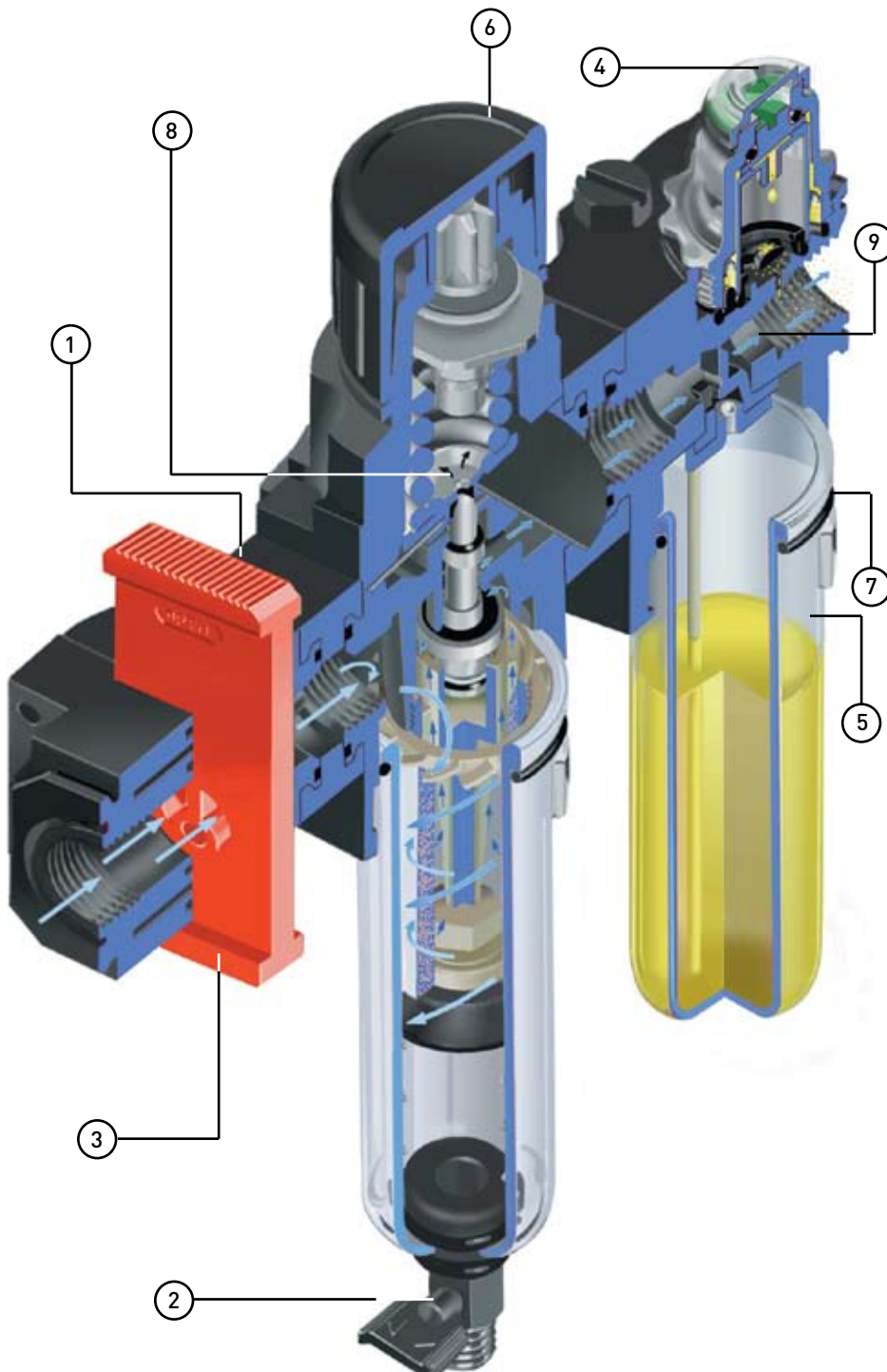
Reference number of switchings: 30/min, reference temperature: +30°C.
Spark quenching with diode with d.c. and inductive load: Imax = 1,5 x Imax of table Imin = 1 [mA]
Creepage and air paths correspond to insulation group B according to VDE reg. 0110 (except contact clearance of microswitch).
* Gold-plating not required as it would decay. Maximum permitted in-rush current (approximately 30 ms) a.c. make = max. 15A.
**Gold-plating required (will not decay). # Lower value of critical voltage guarantees sufficient contact safety. Lower voltages permissible under favourable conditions.

Excelon

Excelon, the alternative modular air preparation system from Norgren.

Although direct ported, thanks to a patented Quikclamp connection system, Excelon can be used where both stand alone units or modular assemblies are required.

Just another example of Norgren's adaptability.



① **PATENTED QUIKCLAMP CONNECTION SYSTEM**

Simple, speedy assembly of accessories and combination units

② **PATENTED QUARTER TURN MANUAL DRAIN**

Simple 1/4 turn to operate. Features a threaded pipeaway outlet.

③ **PATENTED SHUT-OFF VALVE**

3/2 with a threaded exhaust and lockable blade for safe system isolation.

④ **LUBRICATOR SIGHT FEED DOME**

Allows full 360° visibility and screwdriver adjustment for easy drip rate setting. Can be made tamper-resistant.

⑤ **BAYONET BOWLS**

Easy removal for routine maintenance. Detent action prevents removal under pressure.

⑥ **PUSH TO LOCK ADJUSTING KNOB**

Can be fitted with a tamper resistant cover.

⑦ **CAPTIVE 'O RINGS**

⑧ **BALANCED VALVE**

For improved regulation characteristics.

⑨ **LUBRICATOR SENSOR**

Helps to maintain constant oil density with varying flow.

PLUS many more design features and accessories.

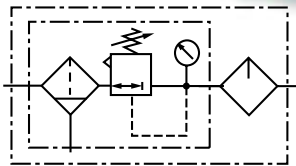
Air line equipment

EXCELON MODULAR SYSTEM

Boxed sets

Filter/regulators and lubricators

G1/4 to G1/2



Boxed sets include: filter/regulator and micro-fog lubricator complete with exhausting shut-off valve, pressure gauge and mounting brackets
High efficiency water and particle removal

Quick release bayonet bowls

Push to lock adjusting knob with tamper resistant option

All round (360°) visibility of lubricator sight feed dome for ease of drip rate setting

Micro-fog lubricator for most general purpose pneumatic applications

BOXED SETS

Port size	Element (µm)	Bowl	Pressure range (bar)	kg	Operation	Model Auto	Unit price (Rs)	Model	Unit price (Rs)
G1/4	40	Transparent	0,3 ... 10	1,65	Relieving	BL72-201GA	3805	BL72-221G	3020
G3/8	40	Transparent	0,3 ... 10	2,26	Relieving	BL73-301G	6125	BL73-321G	5050
G1/2	40	Guarded transparent	0,3 ... 10	3,55	Relieving	BL74-401G	6120	BL74-421G	5240

Boxed set includes gauge, shut-off valve and bracket.

ACCESSORIES

Series	Port size	Gauge 0 ... 10 bar	Unit price (Rs)	Tamper resistant cover and seal wire	Unit price (Rs)	3/2 Shut-off valve	Unit price (Rs)
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BL72	G1/4	18-013-989	210	4255-51	75	T72T-2GA-P1N	750
BL73	G3/8	18-013-013	240			T73T-3GA-P1N	1310
BL74	G1/2	18-013-013	240			T74T-4GA-P1N	1350

TECHNICAL DATA

Medium:

Compressed air

Maximum inlet pressure:

10 bar

Ambient temperature:

-20°C to +50°C

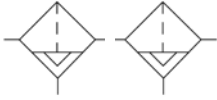
Consult our Technical Service for use below +2°C

EXCELON MODULAR SYSTEM

General purpose filters

F72G, F73G, F74G

G1/4 to G3/4



F72G



F73G



F74G

Excelon design allows in-line installation or modular installation with other Excelon products
Quick release bayonet bowl

TECHNICAL DATA

Medium:

Compressed air only

Maximum inlet pressure:

10 bar

Ambient temperature:

-34°C to +50°C

Consult our Technical Service for use below +2°C

Port size	Flow [dm ³ /s]	kg	Model Auto	Unit price (Rs)	Model Manual	Unit price (Rs)
G1/4	30	0,45	F72G-2GN-AL3	1665	F72G-2GN-QT3	815
G3/8	35	0,50	F73G-3GN-AT3	2175	F73G-3GN-QT3	1360
G1/2	83	0,81	F74G-4GN-AP3	2210	F74G-4GN-QP3*	1340
G3/4	83	0,79	F74G-6GN-AP3	2855	F74G-4GN-QP3*	2030

* Transparent with guard

ACCESSORIES

Series	Port size	Wall mounting bracket	Unit price (Rs)	Quickclamp and Quickclamp wall bracket	Unit price (Rs)
F72G	G1/4		250		350
F73G	G3/8		150		485
	G3/4		290		485
F74G	G1/2		290		485

OPTIONS SELECTOR

F7★G-★★★★★★

Series	Substitute	Element	Substitute
72	2	5 μm	1
73	3	25 μm	2
74	4	40 μm	3
Port size	Substitute	Bowl	Substitute
1/4 (72 & 73)	2	Metal with liquid level indicator	D
3/8	3	Long metal with liquid indicator (72)	E
1/2 (73 & 74)	4	Transparent without guard (72, 73)	T
3/4 (74)	6	Long transparent without guard (72)	L*
Threads	Substitute	Long transparent with guard (72)	W*
PTF	A	Transparent with guard (73, 74)	P
ISO Rc taper	B	Drain	Substitute
ISO G parallel	G	1/4 turn manual	Q
Service life indicator	Substitute	Semi automatic	S
With (visual)	D	Auto drain*	A
With (electrical)	E		
Without	N		

* Supplied with long bowl option only

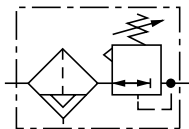
Air line equipment

EXCELON MODULAR SYSTEM

Filter/regulators

B72G, B73G, B74G

G1/4 to G3/4



B72G



B73G



B74G

Excelon design allows in-line installation or modular installation with other Excelon products

High efficiency water and particle removal

Quick release bayonet bowl

Push to lock adjusting knob

with tamper resistant accessory

Port size	Flow (dm ³ /s)	Bowls	kg	Model Auto	Unit price (Rs)	Manual	Unit price (Rs)
G1/4	38	Transparent	0,56	B72G-2GK-AL3-RMN	2360	B72G-2GK-QT3-RMN	1510
G3/8	50	Transparent	0,7	B73G-3GK-AT3-RMN	3395	B73G-3GK-QT3-RMN	2564
G1/2	100	Guarded transparent	1,25	B74G-4GK-AP3-RMN	3360	B74G-4GK-QP3-RMN	2660

Gauge not included

ACCESSORIES

Wall mounting bracket



Neck mounting bracket



Gauge 0 ... 10 bar



Tamper resistant cover and seal wire



Quickclamp and Quickclamp wall bracket



TECHNICAL DATA

Medium:

Compressed air

Maximum inlet pressure:

10 bar

Gauge ports:

Rc1/8

Ambient temperature:

-34°C to +50°C.

Consult our Technical Service for use below +2°C

Series	Port size	Model	Unit price(Rs)	Model	Unit price(Rs)	Model	Unit price(Rs)	Model	Unit price(Rs)	Model	Unit price(Rs)
B72G	G1/4	4224-50	250	74316-50	80	18-013-989	210	4255-51	75	4214-52	350
B73G	G3/8	4424-50	150	4461-50	145	18-013-013	240	-	-	4314-52	485
B74G	G1/2	4324-50	290	4368-51	261	18-013-013	240	-	-	4314-52	485

OPTIONS SELECTOR

B7★G-★★★-★★★-★★★

Series	Substitute	Gauge	Substitute
72	2	With	G
73	3	Without	N
74	4		
Port size	Substitute	Outlet pressure adjustment range*	Substitute
1/4" [72 & 73]	2	0,3 ... 2 bar [72]	C
3/8"	3	0,3 ... 4 bar	F
1/2" [73 & 74]	4	0,3 ... 10 bar	M
3/4" [74]	6	0,7 ... 17 bar [73, 74]	S
Threads	Substitute	Diaphragm	Substitute
PTF	A	Relieving	R
ISO Rc taper	B	Non relieving	N
ISO G parallel	G		
Adjustment	Substitute	Element	Substitute
Knob	K	5 µm	1
T-bar	T	25 µm	2
		40 µm	3
Drain	Substitute	Bowl	Substitute
1/4 turn manual	Q	Metal with liquid level indicator	D
Semi automatic [72]	S	Long metal with liquid level indicator [72]	E
Auto drain**	A	Transparent without guard [72, 73]	T
		Long transparent without guard [72]	L
		Long transparent with guard [72]	W
		Transparent with guard [73,74]	P

*Outlet pressure can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

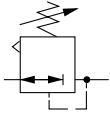
**Supplied in long bowl options only

EXCELON MODULAR SYSTEM

Pressure regulators

R72G, R73G, R74G

G1/4 to G3/4



R72G

R73G

R74G

Excelon design allows in-line or modular installation
Balanced valve design for optimum pressure control
Standard relieving models allow reduction of downstream pressure when the system is dead-ended
Push to lock adjusting knob with tamper resistant accessory
Manifold regulators can be banked together to provide numerous regulated pressures from a common primary pressure

Port size	Flow (dm ³ /s)	kg	Model	Unit price(Rs)
G1/4	33	0,36	R72G-2GK-RMN	1055
G1/4	50	0,48	R73G-2GK-RMN	2150
G3/8	60	0,48	R73G-3GK-RMN	1755
G1/2	105	0,80	R74G-4GK-RMN	1785
G3/4	105	0,78	R74G-6GK-RMN	2645

Gauge not included

ACCESSORIES



Series	Port size	Model	Unit price(Rs)	Model	Unit price(Rs)	Model	Unit price(Rs)	Model	Unit price(Rs)	Model	Unit price(Rs)
R72G	G1/4	4224-50	250	74316-50	80	18-013-989	210	4255-51	75	4214-52	350
R73G	G1/4	4424-50	150	4461-50	145	18-013-013	240	-	-	4314-52	485
		G3/4	4424-50	150	4461-50	145	18-013-013	240	-	-	4314-52
R74G	G1/2	4324-50	290	4368-51	261	18-013-013	240	-	-	4314-52	485

TECHNICAL DATA

Medium:

Compressed air

Maximum inlet pressure:

20 bar

Gauge ports:

Rc1/8

Ambient temperature:

-34°C to +65°C (R72G)

-34°C to +80°C (R73G & R74G)

Consult our Technical Service for use below +2°C

OPTIONS SELECTOR

R7★-★-★-★-★-★

Series	Substitute	Gauge	Substitute
72	2	With	G
73	3	Without	N
74	4		
Flow type	Substitute	Outlet pressure adjustment range*	Substitute
Uni-directional	G	0,3 ... 2 bar (72)	C
Reverse	R	0,3 ... 4 bar	F
Manifold (72 only)	M	0,3 ... 10 bar	M
		0,7 ... 17 bar** (73, 74)	S
Port size	Substitute	Diaphragm	Substitute
1/4" (72 & 73)	2	Relieving	R
3/8"	3	Non relieving	N
1/2" (73 & 74)	4		
3/4" (74)	6		
Threads	Substitute	Adjustment	Substitute
PTF	A	Knob	K
ISO Rc taper	B	T-bar	T
ISO G parallel	G		

*Outlet pressure can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.
**Units with 17 bar outlet pressure range are available only with the T-bar adjustment; therefore substitute T at the 7th position and S at the 9th position.

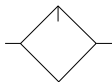
Air line equipment

EXCELON MODULAR SYSTEM

Lubricators

L72, L73, L74

G1/4 to G3/4



L72



L73



L74

Excelon design allows in-line or modular installation
Quick release bayonet bowl.
Flow sensor provides a nearly constant oil/air ratio over a wide range of flows
All round (360°) visibility of sight-feed dome for ease of drip rate setting
Micro-fog and oil-fog

TECHNICAL DATA

Medium:

Compressed air

Maximum inlet pressure:

10 bar

Start point:

L72C 0,47 dm³/s

L72M 0,94 dm³/s

L73 0,71 dm³/s

L74 0,94 dm³/s

Minimum flow required for lubricator operation at 6,3 bar inlet pressure

Ambient temperature:

-20°C to +50°C

Consult our Technical Service for use below +2°C

Port size	Flow (dm ³ /s)	Bowl	Bowl capacity (litre)	kg	Model*	Unit price (Rs)
G1/4	24	Transparent	0,04	0,49	L72M-2GP-ETN	755
G3/8	64	Transparent	0,1	0,55	L73M-3GP-ETN	1320
G1/2	70	Guarded transparent	0,2	0,60	L74M-4GP-QPN	1345

* If 8th character in model number is an E. This model has a closed bottom drain

* If 8th character in model number is a Q. This model has a manual 1/4 turn drain

* If 9th character in model number is a T. This model has a Transparent bowl without guard [72, 73]

* If 9th character in model number is a P. This model has a 0.2 litre transparent bowl with guard [73, 74]

ACCESSORIES

Series	Port size	Wall mounting bracket	Unit price(Rs)	Quikclamp and Quikclamp wall bracket	Unit price(Rs)
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L72	G1/4	4224-50	250	4214-52	350
L73	G3/8	4424-50	150	4314-52	485
L74	G1/2	4324-50	290	4314-52	485

OPTIONS SELECTOR

Series	Substitute	Options	Substitute
72*	2	Low oil level switch** [74]	L
73*	3	None	N
74	4	Pyrex dome#	P
		Quick fill nipple [73, 74]	Q
Type	Substitute	Bowl	Substitute
Oil-fog	C	Metal with liquid level indicator	D
Micro-fog	M	Metal with Pyrex sight glass	R
		Transparent without guard [72, 73]	T
		Long transparent without guard [72]	L
		Long transparent with guard [72]	W
		1 litre metal with Pyrex liquid level indicator‡ [74]	A
		0,2 litre transparent with guard [73, 74]	P*
Port size	Substitute	Drain	Substitute
1/4 [72 & 73]	2	Closed bottom	E
3/8	3	Manual 1/4 turn	Q
1/2 [73 & 74]	4	Remote fill device	R
3/4 [74]	6		
Threads	Substitute		
PTF	A		
ISO Rc taper	B		
ISO G parallel	G		
Air flow direction	Substitute		
Bi-directional [74]	E		
Uni-directional	P		

* Not available with 1 litre bowl

** Low oil level switch requires 1 litre bowl, type 'A' at 9th digit.

Pyrex dome used only with bowl type 'A' or 'R' at 9th digit.

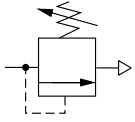
‡ Pyrex liquid level indicator used only with option 'P' at 10th digit.

EXCELON MODULAR SYSTEM

Pressure relief valves

V72G, V74G

G1/4 to G3/4



V72G



V74G

Excelon design allows in-line installation or modular installation with other Excelon products. Push to lock adjusting knob with tamper resistant accessory. Helps protect air operated equipment from over pressure by retarding excessive pressure build up.

Norgren pressure relief valves comply with category O[S.E.P.] and category 1 of the Pressure Equipment Directive 97/23/EC.

TECHNICAL DATA

Medium:

Compressed air

Gauge ports:

Rc1/8

Relief port:

G1/4 (V72G), G1/2 (V74G)

Ambient temperature:

-34°C to +65°C (V72G)

-34°C to +80°C (V74G)

Consult our Technical Service for use below +2°C

Port size	kg	Model	Unit price(Rs)
G1/4	0,33	V72G-2GK-NMN	1700
G3/8	0,69	V74G-3GK-NMN	3260
G1/2	0,68	V74G-4GK-NMN	3260
G3/4	0,67	V74G-6GK-NMN	3450

Note: for Excelon 73 combinations use V74G.
Gauge not included

ACCESSORIES



Series	Port size	Model	Unit price(Rs)	Model	Unit price(Rs)	Model	Unit price(Rs)	Model	Unit price(Rs)	Model	Unit price(Rs)	Model	Unit price(Rs)
V72G	G1/4	4224-50	250	74316-50	80	18-013-989	210	4255-51	75	4214-52	350	4248-89	13
V74G	G3/8	4224-50	150	74316-50	80	18-013-989	210	-	-	4314-52	485	-	-
	G1/2	4324-50	290	4368-51	261	18-013-013	240	4255-51	75	4314-52	485	-	-
	G3/4	4324-50	290	4368-51	261	18-013-013	240	-	-	4314-52	485	4348-89	73

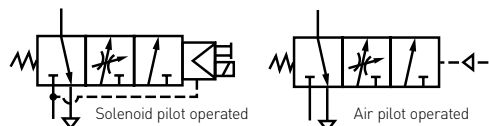
Air line equipment

EXCELON MODULAR SYSTEM

Soft start/dump valves

P72F, P74F

G1/4 to G3/4



P72F



P74F

Assists machine designers in complying with the European Machineries Directive

Can help existing machinery to comply with PUWER (Provision and Use of Work Equipment Regulations)

Controlled increase of downstream pressure on start up
High forward flow capacity
High flow dump facility
Manual lockout option – when actuated overrides operating signal to dump downstream air

TECHNICAL DATA

Medium:

Compressed air

Maximum operating pressure:

10 bar

Minimum operating pressure:

3 bar

Ambient temperature:

5°C to +50°C.

Consult our Technical Service for use below +2°C

Air pilot port:

P72F M5

P74F Rc1/4

Exhaust port:

P72F Rc1/4

P74F G1/2

Maximum flow:

P72F 21 dm³/s

P74F 57 dm³/s

Note: Maximum flow with 6,3 bar inlet pressure and pressure drop of 0,5 bar

Snap pressure:

Full flow when downstream pressure reaches 50 to 80% of inlet pressure.

Port size	kg	Solenoid operated model*	kg	Unit price(Rs)
G1/4	2,0	P72F-2GC-PFN	0,88	3450
G3/8	2,0	P72F-3GC-PFN	2	3450
G1/2	1,05	P74F-4GC-PFN	1,02	3450
G3/4	1,41	P74F-6GC-PFN	1,41	3450

Solenoid operated models are supplied with 22-mm 24 V d.c. 2 W solenoids but without connector plugs.

* To order unit with connector plug replace 'N' at 12th digit by 'A' e.g. P7*F-*GC-PFA

ACCESSORIES

Series	Port size	Quickclamp and Quickclamp wall bracket	Unit price (Rs)
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P72F.	G1/4	4214-52	350
	G3/8	4214-52	350
P74F	G1/2	4314-52	485
	G3/4	4314-52	485

* Reduced light intensity at 12 V.-.

** For other solenoid plugs, please contact Norgren.

Plug with cable gland for 22 mm solenoid **	Unit price (Rs)
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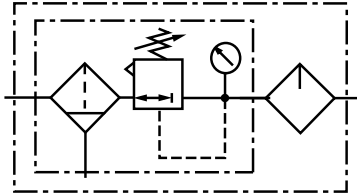
M/P24121/1*	10 ... 50 V a.c./d.c.	325
M/P24121/2	70 ... 110 V a.c.	325

PORTED COMBINATION UNITS

Filter/regulators and lubricators

P1H

G1/8, G1/4



Combinations of filter-regulators and lubricators can be ordered as pre-assembled units

Complete control of filtration, regulation and lubrication at a single point

Micro-fog versions for most general purpose pneumatic applications

TECHNICAL DATA

Medium:

Compressed air only

Maximum inlet pressure:

10 bar

Ambient temperature:

-20°C to +50°C.

Consult our Technical Service for use below +2°C

Filter/regulator & lubricator combinations

Port size	kg	Model Auto	Unit price (Rs)	Model Manual	Unit price (Rs)
G1/4	0,35	P1H-200-A3QG	2855	P1H-200-M3QG	2150

Models listed include ISO G threads, transparent bowls, filter/regulator with relieving diaphragm, automatic or manual drain, 40 µm element, 0,3 to 7 bar outlet pressure adjustment range (filter/regulator/lubricator combinations)

ACCESSORIES

Gauge	Unit price (Rs)
0 ... 10 bar	210



18-013-989

210

Air line equipment

PORTED GENERAL PURPOSE FILTERS

F07

G1/8, G1/4



Direct ported filters with high water removal efficiency
Automatic drains supplied as standard
High flow with minimal pressure drop

Port size	Flow (dm ³ /s)	Drain	Bowl	kg	Model	Unit price(Rs)
G1/4	11,5	Auto	Transparent	0,13	F07-200-A3TG	580
G1/4	11,6	Manual	Transparent	0,13	F07-200-M3TG	415

Models listed include ISO G threads and 40 µm element.

TECHNICAL DATA

Medium:

Compressed air only

Maximum inlet pressure:

10 bar

Ambient temperature:

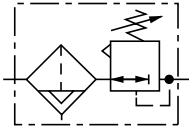
-34°C to +50°C

Consult our Technical Service for use below +2°C

PORTED FILTER/REGULATORS

B07

G1/8, G1/4



Filter-regulators for all general purpose pneumatic applications
High performance design provides high flow with minimum pressure drop
Non-rising adjusting knob has snap-action lock

Port size	Flow (dm ³ /s)	Drain	Bowl	Range (bar)	kg	Model	Unit price(Rs)
G1/4	6,5	Auto	Transparent	0,3 ... 7	0,26	B07-201-A3KG	900
G1/4	6,5	Manual	Transparent	0,3 ... 7	0,26	B07-201-M3KG	720

Models listed include ISO G threads, relieving diaphragm and 40 µm element.
 Gauge not included

TECHNICAL DATA

Medium:

Compressed air only

Maximum inlet pressure:

10 bar

Gauge ports:

Rc1/8

Ambient temperature:

-34°C to +50°C

Consult our Technical Service for use below +2°C

ACCESSORIES

Gauge	Unit price (Rs)
0 ... 10 bar	



18-013-989

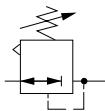
210

Air line equipment

PORTED PRESSURE REGULATORS

R07

G1/8, G1/4



Ported regulators for general purpose pneumatic applications
 Relieving operation as standard
 Non-rising adjusting knob with snap-action lock

TECHNICAL DATA

Medium:

Compressed air only

Maximum inlet pressure:

20 bar

Gauge ports:

Rc1/8

Ambient temperature:

-34°C to +65°C

Consult our Technical Service for use below +2°C

Port size	Flow (dm ³ /s)	Range (bar)	kg	Model	Unit price(Rs)
G1/8	6,5	0,3 ... 7	0,19	R07-100-RNKG	450
G1/4	7	0,3 ... 7	0,19	R07-200-RNKG	450

Models listed include ISO G threads and relieving diaphragm.
 * For non relieving option replace R with N
 Gauge not included

ACCESSORIES

Gauge	Unit price (Rs)
0 ... 10 bar	

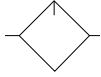


18-013-989 (0 ... 10 bar)	210
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PORTED LUBRICATORS

L07

G1/8, G1/4



Micro-fog lubricators provide a fine mist for most general purpose pneumatic applications

TECHNICAL DATA

Medium:

Compressed air only

Maximum inlet pressure:

10 bar

Start point:

0,24 dm³/s

Minimum flow required for lubricator operation at 6,3 bar inlet pressure

Ambient temperature:

-20°C to +50°C

Consult our Technical Service for use below +2°C

Micro-fog lubricator

Port size	Flow (dm ³ /s)	Bowl	Bowl capacity (litre)	kg	Model	Unit price(Rs)
G1/4	6,7	Transparent	0,03	0,13	L07-200-MPQG	1055

ACCESSORIES

Series	Port size	Neck mounting bracket	Unit price (Rs)
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L07	G1/8	18-025-003	180
L17	G1	-	

*Pack of 10

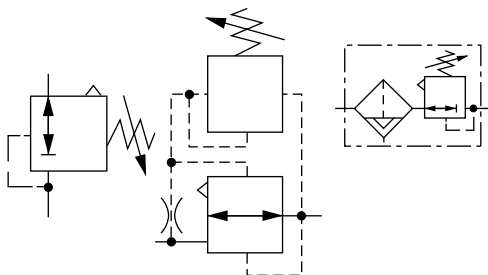
**0,5 l bowl only.

FOR PART NUMBERS AND PRICES OF ACCESSORIES, PLEASE CONTACT NORGREN

Air line equipment

11-818 PRECISION PRESSURE REGULATORS

G1/4



Compact, high precision regulators for air gauging, laboratory use and precise pilot control*

* Not recommended for dead end use, consult our Technical Service for details



TECHNICAL DATA

Medium:

Compressed air only

Maximum inlet pressure:

10 bar (11-818-100)

14 bar (11-818-110)

8 bar (11-818-999)

Ambient temperature:

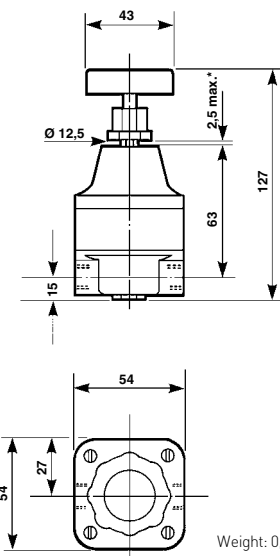
0°C to +70°C

Consult our Technical Service for use below +2°C

MATERIALS

Body & bonnet: zinc alloy Adjusting knob: acetal resin

Elastomers: synthetic rubber



* Note: Ø 17,5 and up to 6 mm max. panel thickness when used with optional panel mounting nut reference 3081-01. To order see accessories opposite.

Weight: 0,59 kg

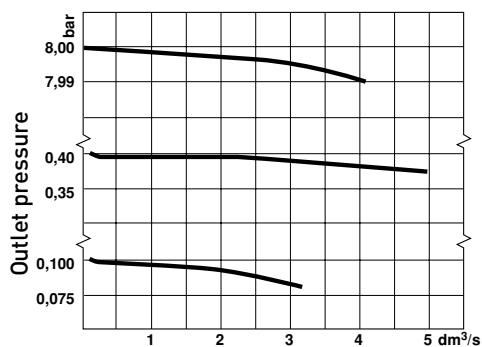
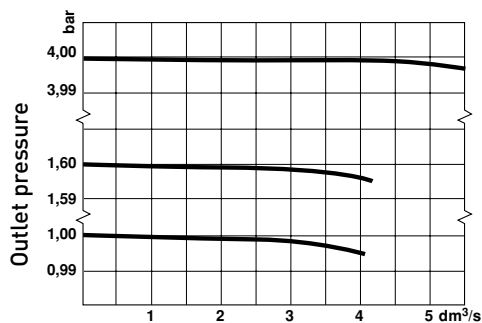
Port size	Accuracy (bar)**	Range (bar)	Operation	kg	Model	Unit price (Rs)
G1/4	0,01	0,02 ... 0,5	Relieving only	0,59	11-818-999	4210
G1/4	0,03	0,07 ... 4	Relieving only	0,59	11-818-100	4210
G1/4	0,05	0,4 ... 10	Relieving only	0,59	11-818-110	4210

** Typical mid-range variance from set pressure with 7 bar inlet at 2 dm³/s

A Norgren oil removal filter should be fitted upstream of these units.

Can be adjusted to zero bar outlet pressure and generally to pressures in excess of those specified

No gauge ports, use downstream tee



PNEUFIT C COMPOSITE FITTINGS

Metric

Ø 4 to 16 mm O/D tube



Norgren Pneufit® C fittings are ready to use, offering fast assembly with no need for tools and providing optimum flow.

Pneufit® C offers a broad range of over 1,000 composite push-in pneumatic fittings to complement our established all brass Pneufit® series.

Releasable stainless-steel grab-ring to grip nylon or polyurethane tube (85 or 95 durometer).

Nickel plated brass components provide corrosion and contamination resistance and an extended life.

Pre applied thread sealant on all taper threads and recessed captive O-ring on parallel threads provides optimum rapid sealing.

Internal and external hexagons on straight fittings.

Immediate quality sealing using silicone free U-packing.

Mounting holes on all union fittings.

TECHNICAL DATA

Medium:

Compressed air

Operating pressure:

750 mm Hg vacuum, up to 10 bar

Ambient temperature:

0 to 60°C

Consult our Technical Service for use below +2°C

Tube sizes:

Standard sizes: 4, 6, 8, 10, 12, 16 mm

Thread sizes:

Standard sizes: M5, M6, 1/8", 1/4", 3/8" and 1/2"

ISO G and ISO Rc

Tubing:

Nylon 11 or 12

Polyurethane 85, 95 or 98 durometer

MATERIALS

Body: PBT

Seals: NBR (silicone free) u-packing and O-rings

Threaded bodies: nickel plated brass

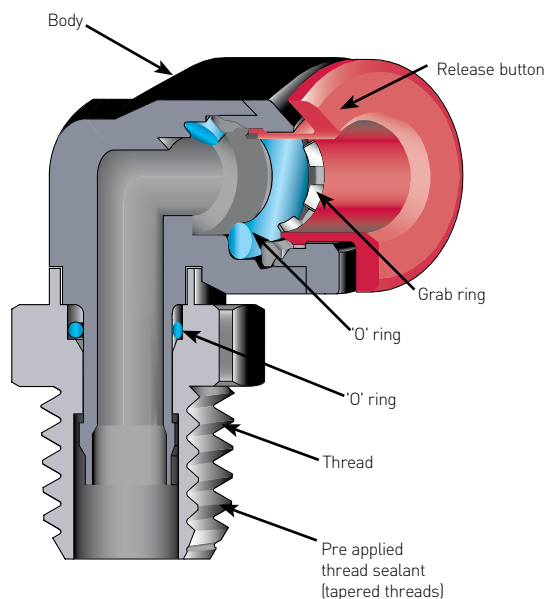
Release sleeve and backing ring: POM

Grab-ring: stainless steel

Collar: nickel plated brass

Thread sealant: threebond 2350B

Typical part number: C01470628
90° swivel elbow adaptor



Fittings

PNEUFIT C COMPOSITE FITTINGS

Metric

Ø 4 to 16 mm O/D tube



Straight union

O/D Tube		Unit price (Rs)
4	C00200400	66
6	C00200600	69
8	C00200800	75
10	C00201000	97
12	C00201200	115
16	C00201600	120



Straight adaptor (external + internal hex)

O/D Tube	BSPT Thread		Unit price (Rs)
4	R1/8	C01250418	38
4	R1/4	C01250428	40
4	R3/8	C01250438	40
6	R1/8	C01250618	40
6	R1/4	C01250628	45
6	R3/8	C01250638	45
6	R1/2	C01250648	50
8	R1/8	C01250818	48
8	R1/4	C01250828	50
8	R3/8	C01250838	53
8	R1/2	C01250848	60
10	R1/8	C01251018	50
10	R1/4	C01251028	60
10	R3/8	C01251038	66
10	R1/2	C01251048	60
12	R1/8	C01251218	60
12	R1/4	C01251228	68
12	R3/8	C01251238	77
12	R1/2	C01251248	97
16	R3/8	C01251638	140
16	R1/2	C01251648	140



Straight union (unequal)

O/D Tube	O/D Tube		Unit price (Rs)
6	4	C00200604	69
8	6	C00200806	75
10	8	C00201008	97
12	10	C00201210	102
16	12	C00201612	120

Stem expander (stem/tube)

O/D Tube	O/D Stem		Unit price (Rs)
6	4	C00230406	80
8	6	C00230608	80



Stem reducer

O/D Stem	O/D Tube		Unit price (Rs)
6	4	C00230604	50
8	4	C00230804	50
8	6	C00230806	60
10	6	C00231006	60
10	8	C00231008	70
12	8	C00231208	80
12	10	C00231210	80
16	12	C00231612	240



Straight adaptor (external + internal hex)

O/D Tube	Metric & BSPP thread		Unit price (Rs)
4	M5	C02250405	50
4	M6	C02250406	50
4	G1/8	C02250418	30
4	G1/4	C02250428	30
4	G3/8	C02250438	40
6	M5	C02250605	50
6	M6	C02250606	50
6	G1/8	C02250618	30
6	G1/4	C02250628	30
6	G3/8	C02250638	40
8	G1/8	C02250818	40
8	G1/4	C02250828	40
8	G3/8	C02250838	40
8	G1/2	C02250848	60
10	G1/8	C02251018	50
10	G1/4	C02251028	40
10	G3/8	C02251038	50
10	G1/2	C02251048	60
12	G1/4	C02251228	60
12	G3/8	C02251238	60
12	G1/2	C02251248	70
16	G3/8	C02251638	140
16	G1/2	C02251648	140

Bulkhead union

O/D Tube		Unit price (Rs)
4	C00290400	87
6	C00290600	102
8	C00290800	120
10	C00291000	166
12	C00291200	225



Fittings

PNEUFIT C COMPOSITE FITTINGS

Metric

Ø 4 to 16 mm O/D tube



Female adaptor

O/D Tube	Female BSPP		Unit price (Rs)
4	M5	C02260405	60
4	G1/8	C02260418	70
4	G1/4	C02260428	50
4	G3/8	C02260438	60
6	G1/8	C02260618	75
6	G1/4	C02260628	80
6	G3/8	C02260638	70
8	G1/8	C02260818	86
8	G1/4	C02260828	90
8	G3/8	C02260838	97
8	G1/2	C02260848	110
10	G1/8	C02261018	90
10	G1/4	C02261028	98
10	G3/8	C02261038	102
10	G1/2	C02261048	110
12	G1/4	C02261228	105
12	G3/8	C02261238	110
12	G1/2	C02261248	120



90° Swivel elbow adaptor

O/D Tube	BSPT Thread		Unit price (Rs)
4	R1/8	C01470418	59
4	R1/4	C01470428	50
4	R3/8	C01470438	60
6	R1/8	C01470618	62
6	R1/4	C01470628	68
6	R3/8	C01470638	60
6	R1/2	C01470648	70
8	R1/8	C01470818	71
8	R1/4	C01470828	75
8	R3/8	C01470838	86
8	R1/2	C01470848	70
10	R1/8	C01471018	80
10	R1/4	C01471028	97
10	R3/8	C01471038	107
10	R1/2	C01471048	90
12	R1/8	C01471218	90
12	R1/4	C01471228	105
12	R3/8	C01471238	121
12	R1/2	C01471248	170
16	R3/8	C01471638	190
16	R1/2	C01471648	180



Plug

O/D Tube		Unit price (Rs)
4	C00040400	24
6	C00040600	25
8	C00040800	27
10	C00041000	31
12	C00041200	35
16	C00041600	40



90° Swivel elbow adaptor

O/D Tube	Metric & BSPP thread		Unit price (Rs)
4	M5	C02470405	70
4	M6	C02470406	70
4	G1/8	C02470418	40
4	G1/4	C02470428	40
4	G3/8	C02470438	55
6	M5	C02470605	70
6	M6	C02470606	80
6	G1/8	C02470618	40
6	G1/4	C02470628	40
6	G3/8	C02470638	60
8	G1/8	C02470818	40
8	G1/4	C02470828	40
8	G3/8	C02470838	60
8	G1/2	C02470848	70
10	G1/8	C02471018	80
10	G1/4	C02471028	80
10	G3/8	C02471038	80
10	G1/2	C02471048	90
12	G1/4	C02471228	70
12	G3/8	C02471238	80
12	G1/2	C02471248	100
16	G3/8	C02471638	180
16	G1/2	C02471648	190



Union elbow

O/D Tube		Unit price (Rs)
4	C00400400	66
6	C00400600	71
8	C00400800	77
10	C00401000	104
12	C00401200	128
16	C00401600	140

Fittings

PNEUFIT C COMPOSITE FITTINGS

Metric

Ø 4 to 16 mm O/D tube



Banjo flow control (out)

O/D Tube	BSPT Thread		Unit price (Rs)
4	R1/8	C0TA00418	340
4	R1/4	C0TA00428	405
6	R1/8	C0TA00618	340
6	R1/4	C0TA00628	405
6	R3/8	C0TA00638	475
8	R1/8	C0TA00818	360
8	R1/4	C0TA00828	405
8	R3/8	C0TA00838	475
8	R1/2	C0TA00848	545
10	R1/4	C0TA01028	405
10	R3/8	C0TA01038	475
10	R1/2	C0TA01048	545
12	R1/4	C0TA01228	425
12	R3/8	C0TA01238	500
12	R1/2	C0TA01248	570



Swivel tee adaptor

O/D Tube	BSPT Thread		Unit price (Rs)
4	R1/8	C01670418	90
4	R1/4	C01670428	60
4	R3/8	C01670438	80
6	R1/8	C01670618	102
6	R1/4	C01670628	111
6	R3/8	C01670638	80
6	R1/2	C01670648	100
8	R1/8	C01670818	128
8	R1/4	C01670828	131
8	R3/8	C01670838	137
8	R1/2	C01670848	110
10	R1/8	C01671018	140
10	R1/4	C01671028	165
10	R3/8	C01671038	177
10	R1/2	C01671048	110
12	R1/8	C01671218	160
12	R1/4	C01671228	180
12	R3/8	C01671238	216
12	R1/2	C01671248	230
16	R3/8	C01671638	230
16	R1/2	C01671648	260



Union tee

O/D Tube		Unit price (Rs)
4	C00600400	87
6	C00600600	94
8	C00600800	110
10	C00601000	159
12	C00601200	174
16	C00601600	300



Swivel side tee adaptor

O/D Tube	BSPT Thread		Unit price (Rs)
4	R1/8	C01680418	90
4	R1/4	C01680428	90
4	R3/8	C01680438	80
6	R1/8	C01680618	90
6	R1/4	C01680628	90
6	R3/8	C01680638	100
6	R1/2	C01680648	110
8	R1/8	C01680818	90
8	R1/4	C01680828	90
8	R3/8	C01680838	100
8	R1/2	C01680848	120
10	R1/8	C01681018	120
10	R1/4	C01681028	120
10	R3/8	C01681038	130
10	R1/2	C01681048	140
12	R1/8	C01681218	140
12	R1/4	C01681228	120
12	R3/8	C01681238	130
12	R1/2	C01681248	140



Union tee (unequal)

O/D Tube	Centre leg O/D Tube		Unit price (Rs)
6	4	C006A0604	50
8	6	C006A0806	50
10	6	C006A1006	60
10	8	C006A1008	60
12	8	C006A1208	110
12	10	C006A1210	120
16	12	C006A1612	160

Fittings

PNEUFIT C COMPOSITE FITTINGS

Metric

Ø 4 to 16 mm O/D tube



Union Y (equal)

O/D Tube		Unit price (Rs)
4	C00820400	90
6	C00820600	98
8	C00820800	132
10	C00821000	152
12	C00821200	183



Manifold union

O/D Tube Outlet	O/D Tube inlet		Unit price (Rs)
4	6	C00D30604	130
4	8	C00D30804	145
6	8	C00D30806	205
6	10	C00D31006	215
8	10	C00D31008	238

Union Y (unequal)

O/D Tube	O/D Tube		Unit price (Rs)
4	6	C00820604	80
6	8	C00820806	90
8	10	C00821008	100
10	12	C00821210	130



Swivel Y adaptor

O/D Tube	BSPT Thread		Unit price (Rs)
4	R1/8	C01880418	122
4	R1/4	C01880428	70
4	R3/8	C01880438	80
6	R1/8	C01880618	164
6	R1/4	C01880628	185
6	R3/8	C01880638	100
6	R1/2	C01880648	100
8	R1/8	C01880818	169
8	R1/4	C01880828	200
8	R3/8	C01880838	208
8	R1/2	C01880848	110
10	R1/8	C01881018	180
10	R1/4	C01881028	221
10	R3/8	C01881038	230
10	R1/2	C01881048	120
12	R1/8	C01881218	200
12	R1/4	C01881228	240
12	R3/8	C01881238	238
12	R1/2	C01881248	248



Male manifold

O/D Tube Outlet	O/D Tube inlet	BSPT Thread		Unit price (Rs)
4	6	R1/8	C01D30418	155
4	8	R1/8	C01D30428	170
6	8	R1/4	C01D30628	205
8	10	R3/8	C01D30838	240



Union cross

O/D Tube		Unit price (Rs)
4	C00900400	80
6	C00900600	90
8	C00900800	120
10	C00901000	130
12	C00901200	160



Hand valve tube to tube

O/D Tube		Unit price (Rs)
6	C00GF0600	220
8	C00GF0800	240
10	C00GF1000	260
12	C00GF1200	280

Fittings

BSP & HOSE FITTINGS

M5, 1/8" to 1" BSP

Bright nickel plated.
Corrosion resistant.
Compact design.
Washers included where necessary.



TECHNICAL DATA

Medium:

Compressed air or any fluids compatible with the materials listed opposite.

Operating pressure:

Generally limited by tubing specification except where plastic sealing washers are used (banjo bolts and M5 units). In these cases pressure is limited to 18 bar. Suitable for vacuum applications. flow regulating banjos are limited to 1 to 10 bar operating range.

Ambient temperature:

Generally limited by tubing specification except where plastic sealing washers are used (banjo bolts, & M5 units). In these cases temperature is limited to +70°C.

MATERIALS

Bar parts: brass to BS 2874: 1986 (CZ 121), bright nickel plated

Stamped parts: brass to BS 2872: 1969 (CZ 122), bright nickel plated

Sealing washers: copper (Delrin for M5 items)



BSP connector

Reducing Male BSPP	Female Metric and BSPP thread		Unit price (Rs)
G1/8	M5	160231805	21
G1/4	M5	160232805	32
G1/4	G1/8	160232818	28
G3/8	G1/8	160233818	31
G3/8	G1/4	160233828	31
G1/2	G1/8	160234818	50
G1/2	G1/4	160234828	49
G1/2	G3/8	160234838	48
G3/4	G1/4	160236828	105
G3/4	G3/8	160236838	104
G3/4	G1/2	160236848	100
Metric & BSPP thread	Female BSPP		Unit price (Rs)
M5	G1/8	160230518	22
G1/8	G1/4	160231828	33
G1/8	G3/8	160231838	53
G1/4	G3/8	160232838	54
G1/4	G1/2	160232848	82
G1/4	G3/4	160232868	333
G3/8	G1/2	160233848	83
G3/8	G3/4	160233868	175
G1/2	G3/4	160234868	136

Supplied with sealing washer.

BSP connector

Reducing Male BSPT	Female BSPP		Unit price (Rs)
R1/8	G1/8	150231818	26
R1/4	G1/8	150232818	20
R1/4	G1/4	150232828	39
R3/8	G1/8	150233818	36
R3/8	G1/4	150233828	29
R3/8	G3/8	150233838	64
R1/2	G1/8	150234818	56
R1/2	G1/4	150234828	50
R1/2	G3/8	150234838	47
R1/2	G1/2	150234848	83
R3/4	G1/4	150236828	120
R3/4	G3/8	150236838	92
R3/4	G1/2	150236848	89
R1	G3/8	150238838	247
R1	G1/2	150238848	176
R1	G3/4	150238868	170



Bulkhead connector

Metric & BSPP thread	Male metric thread		Unit price (Rs)
M5	M10 x 1,0	160290005	34
G1/8	M16 x 1,5	160290018	54
G1/4	M20 x 1,5	160290028	84
G3/8	M26 x 1,5	160290038	114
G1/2	M28 x 1,5	160290048	144
G3/4	M33 x 1,5	160290068	204
G1	M42 x 1,5	160290088	284

Supplied with locknut.



Nipple adaptor

BSPT Thread	BSPT Thread		Unit price (Rs)
R1/8	R1/8	150201818	21
R1/4	R1/8	150202818	29
R1/4	R1/4	150202828	29
R3/8	R1/8	150203818	38
R3/8	R1/4	150203828	39
R3/8	R3/8	150203838	40
R1/2	R1/8	150204818	73
R1/2	R1/4	150204828	63
R1/2	R3/8	150204838	66
R1/2	R1/2	150204848	49
R3/4	R1/4	150206828	298
R3/4	R3/8	150206838	299
R3/4	R1/2	150206848	117
R3/4	R3/4	150206868	121
R1	R3/8	150208838	385
R1	R1/2	150208848	392
R1	R3/4	150208868	217
R1	R1	150208888	223



Adaptor

Female NPTF	Male BSPT		Unit price (Rs)
R1/8	R1/8	154231818	44
R1/4	R1/4	154232828	54
R3/8	R3/8	154233838	64
R1/2	R1/2	154234848	120
R3/4	R3/4	154236868	256

Female BSPP	Male NPTF		Unit price (Rs)
G1/4	R1/4	172232828	54
G3/8	R3/8	172233838	90
G1/2	R1/2	172234848	130



Hexagon nipple

Male BSPT	Male NPTF		Unit price (Rs)
R1/8	1/8	154201818	34
R1/4	1/4	154202828	70
R3/8	3/8	154203838	94
R1/2	1/2	154204848	140
R3/4	3/4	154206868	184

Adaptor fittings – allow connection between components and system using BSP or NPT threads.



Nipple adaptor

Metric & BSPP thread	Metric & BSPP thread		Unit price (Rs)
M5	M5	160200505	23
G1/8	M5	160201805	27
G1/8	1/8	160201818	24
G1/4	1/8	160202818	34
G1/4	1/4	160202828	35
G3/8	1/4	160203828	42
G3/8	3/8	160203838	49
G1/2	1/4	160204828	65
G1/2	3/8	160204838	71
G1/2	1/2	160204848	78
G3/4	1/2	160206848	137
G3/4	3/4	160206868	131
G1	1/2	160208848	280
G1	3/4	160208868	280
G1	1	160208888	390

Supplied with sealing washers.



Plug

BSPT Thread		Unit price (Rs)
R1/8	150050018	16
R1/4	150050028	21
R3/8	150050038	29
R1/2	150050048	49
R3/4	150050068	75
R1	150050088	148



Plug

Metric & BSPP Threads		Unit price (Rs)
M5	160050005	9
G1/8A	160050018	19
G1/4A	160050028	23
G3/8A	160050038	33
G1/2A	160050048	51
G3/4A	160050068	82
G1A	160050088	157

Supplied with sealing washer.

TUBING & HOSES

Ø 4 to 14 mm O/D

Available in a variety of different types to suit a wide range of applications. All tubing can be used with specific ranges of tube fittings shown in this catalogue.

Nylon and polyurethane tube available in a range of colours for ease of identification.

TECHNICAL DATA

Medium:

Compressed air. Consult our Technical Service for use with other fluids.

Operating pressure:

Refer to specific tubing type on the following pages.

Ambient temperature:

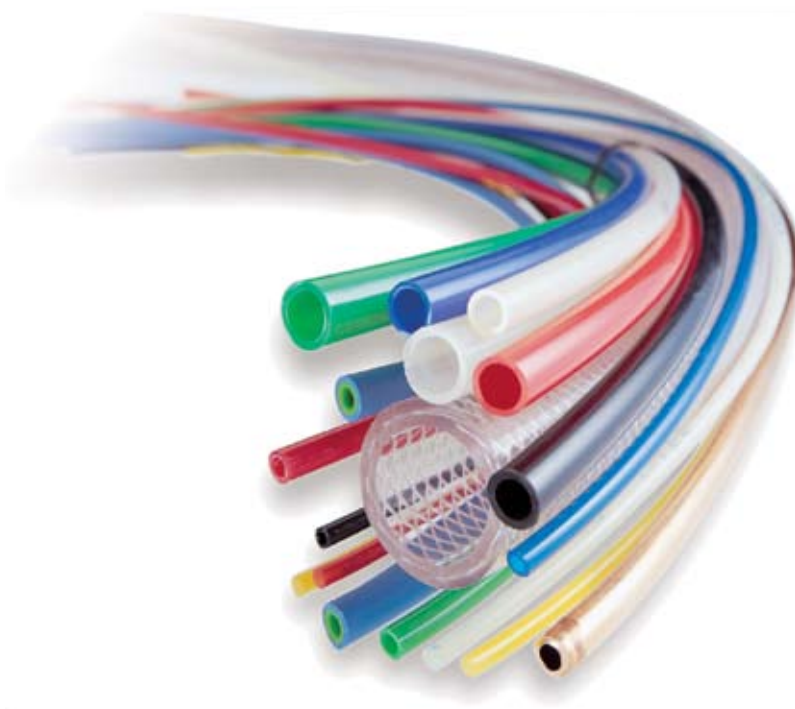
Refer to specific tubing type on the following pages.

MATERIALS

Nylon tube: nylon (polyamide)

type 12, fully plasticised and light stabilised. metric tube meets the requirements of DIN 73378 and BS 5409.

Polyurethane tube: is light stabilised and has a hardness of 92-98 shore A.



MAXIMUM WORKING PRESSURES

O/D mm		3	4	5	6	8	10	12	14
Max. pressure [bar]* at -40°C to +20°C	Polyurethane	15	10	11	9	9	9	9	-
Min. bend radius mm	Polyurethane	7	7	9	16	17	25	-	-

Maximum continuous working temperature: nylon +80°C, polyurethane +60°C.

*Multiply by factors in table alongside for use at higher temperatures.

PRESSURE/ TEMPERATURE CONVERSION FACTORS

Working temperature	Factor
+30°C	0,83
+40°C	0,72
+50°C	0,64
+60°C	0,57
+80°C	0,47

Fittings

TUBING & HOSES

Ø 4 to 14 mm O/D



Polyurethane

O/D I/D tube Colour	Ø 4/2,5	Unit price (Rs)	Ø 6/4	Unit price (Rs)	Ø 8/5,5	Unit price (Rs)	Ø 10/7	Unit price (Rs)	Ø 12/8	Unit price (Rs)
Natural	PU0004100C	18	PU0006100C	27	PU0008100D	39	PU0010100D	75	PU0012100D	105
Black	PU0704100C	18	PU0706100C	27	PU0708100D	39	PU0710100D	75	PU0712100D	105
Blue	PU0504100C	18	PU0506100C	27	PU0508100D	39	PU0510100D	75	PU0512100D	105
Red	PU0104100C	18	PU0106100C	27	PU0108100D	39	PU0110100D	75	PU0112100D	105
Yellow	PU0304100C	18	PU0306100C	27	PU0308100D	39	PU0310100D	75	PU0312100D	105
Green	PU0204100C	18	PU0206100C	27	PU0208100D	39	PU0210100D	75	PU0212100D	105

* Part numbers are for 1m lengths. Please state number of metres required.

BALL VALVES

60, 61 Series

Brass

1/8" to 4" BSP



Precision engineered shut-off valves.
 Minimum resistance to fluid flow.
 Positive quick open/shut action.
 Flow in either direction (except exhaust type).

TECHNICAL DATA

Medium:

Compressed air, inert gases, water, oils and many hydrocarbon derivatives depending upon valve seat material

Operating pressure:

Refer to tables

Ambient temperature:

Refer to tables opposite

MATERIALS

60 Series:

Nickel plated brass to UNI-5705-65, chromium plated brass, zinc plated steel, PTFE seats and nitrile or Viton rubber seals

61 Series:

Stainless steel body, stem, ball nut and handle PTFE seats



Standard Full bore

Female	Maximum pressure (bar)		Unit price (Rs)
G1/4	45	602112128	430
G3/8	40	602112138	475
G1/2	35	602112148	515
G3/4	30	602112168	865
G1	25	602112188	1070
G1 1/4	20	6021121A8	1745
G1 1/2	20	6021121B8	2570
G2	16	6021121C8	4000

PTFE seats, Viton seals
 Operating temperature: -20°C to +150°C

ADDITIONAL RANGES

M/S & T45 POROUS PLASTIC SILENCERS

BSPP	Model	Unit price(Rs)
M5	M/S0	70
1/8	M/S1	70
1/4	M/S2	95
3/8	M/S3	145
1/2	M/S4	315
3/4	M/S6	480
1	M/S8	645

Reduce the noise levels of pneumatic equipment
Compact, efficient and lightweight
Screw directly into the exhaust port
Prevent the ingress of dirt



Threaded silencers

NOTES

NOTES

NOTES

WARNING

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under **Technical Data**.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult **NORGREN**.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

Our policy is one of continuous research and development. We therefore reserve the right to amend without notice the specifications given in this document.

NORGREN INDIA OFFICES**NOIDA**

A62, Sector 63 Noida - 201 301 (U.P.)
 Tel: +91 0120-3089500, +91 0120-4089500
 Fax: +91 0120-3089700
 enquiry@norgren.co.in

CHENNAI

Ega Trade Centre
 809, Poonamalle High Road
 Kilpauk, Chennai-600 010
 Tel: (044) 4285 7050
 Fax: (044) 2661 1900

MUMBAI

No. 302, 3rd Floor
 The Great Summit "B", Plot No. 66, Sec-15,
 CBD Belapur
 Navi Mumbai
 Tel: (022) 2756 6474
 Fax: (022) 2756 6475

PUNE

502-B, City Tower
 17 Dhole Patil Road
 Pune-411 0001
 Tel: (020) 3052 2559
 Fax: (020) 3052 2558

COIMBATORE

509-R, 4th Floor
 Red Rose Plaza, D.B. Road
 R. S. Puram
 Coimbatore-641 012
 Tel: (0422) 437 0607
 Fax: (0422) 437 0607

BANGALORE

CCI Office Complex
 SJR iPark, 6th Floor
 Warp Tower, Plot No. 13, 14 & 15,
 EPIP Zone, Phase - 1
 Whitefield Road,
 Bangalore - 560 066
 Tel: (080) 4030 3500
 Fax: (080) 4030 3532

VADODARA

E-10, Prayagraj Society
 Opp. Old Bapod Bus Stand
 Behind Rang Vatika
 Waghodia Road
 Vadodara - 390 019
 Tel: (0265) 232 6467
 Fax: (0265) 232 6467

NORGREN INTERNATIONAL SALES OFFICES**AUSTRALIA**

Tel: +61 3 921 30 800
 Fax: +61 3 921 30 890
 enquiry@norgren.com.au

AUSTRIA

Tel: +43 22 36 63 520
 Fax: +43 22 36 63 520 20
 enquiry@at.norgren.com

BELGIUM & LUXEMBURG

Tel: +32 2 333 44 11
 Fax: +32 2 333 44 88
 enquiry@be.norgren.com

BRAZIL

Tel: +55 11 5698 4000
 Fax: +55 11 5698 4001/4015
 vendas@norgren.com.br

CHINA

Tel: +86 21 64856909
 Fax: +86 21 64956042
 info@norgren.com.cn

CROATIA

Tel: +386 4 5317550
 Fax: +386 (64) 7000949
 info@si.norgren.com

CZECH REPUBLIC & SLOVAKIA

Tel: +420 465 612 879
 Fax: +420 465 612 908
 info@cz.norgren.com

DENMARK

Tel: +45 44 91 41 66
 Fax: +45 44 91 15 60
 norgren@norgren.dk

FINLAND

Tel: +358 95 712 140
 Fax: +358 95 712 1440
 arki@norgren.fi

FRANCE

Tel: +33 1 60 05 92 12
 Fax: +33 1 60 06 08 52
 norgren@norgren.fr

GERMANY

Tel: +49 2802 49-0
 Fax: +49 2802 49356
 info@norgren.de

HUNGARY

Tel: +36 1 284 9000
 Fax: +36 1 284 8980
 info@norgren.hu

IRELAND

Tel: +353 1 8300 288
 Fax: +353 1 8300 082
 norgren@indigo.ie

ITALY

Tel: +39 039 60 631
 Fax: +39 039 60 63 301
 info@norgrenitalia.it

JAPAN

Tel: +81 6 6876 8913
 Fax: +81 6 6876 8929
 toiwase@norgren.com.jp

MALAYSIA

Tel: +60 3 5121 9255
 Fax: +60 3 5121 2889
 enquiry@norgren.com.my

MEXICO

Tel: +52 55 1500 64 00
 Fax: +52 55 1500 64 30
 neumatica@norgren.com.mx

NETHERLANDS

Tel: +31 20 6822751
 Fax: +31 20 6820983
 enquiry@nl.norgren.com

NORWAY

Tel: +47 67 90 82 01
 Fax: +47 67 97 06 24
 norgren@norgren.no

POLAND

Tel: +48 22 518 9530
 Fax: +48 22 518 9531
 biuro@pl.norgren.com

ROMANIA

Tel: +40 (0) 21 316 1323
 Fax: +40 (0) 21 316 1323
 office@norgren.ro

RUSSIA

Tel: +7 495 911-91-41
 sales@norgren-imi.ru

SINGAPORE

Tel: +65 6862 1811
 Fax: +65 6862 1916/7
 enquiry@sg.norgren.com

SLOVENIA

Tel: +386 4 531 7550
 Fax: +386 4 531 7555
 info@si.norgren.com

SPAIN

Tel: +34 93 748 9800
 Fax: +34 93 783 0838
 norgren@norgren.es

SWEDEN

Tel: +46 40 59 51 00
 Fax: +46 40 49 50 90
 info@norgren.se

SWITZERLAND

Tel: +41 71 973 82 00
 Fax: +41 71 973 82 01
 norgren@norgren.ch

THAILAND

Tel: +66 2750 3598/3599/3696
 Fax: +66 2750 3855
 enquiry@norgren.co.th

UK

Tel: +44 1543 265 000
 Fax: +44 1543 265 811
 enquiry@uk.norgren.com

USA

Tel: +1 303 794 2611
 Fax: +1 303 798 4856
 inquiry@usa.norgren.com

Supported by distributors worldwide
www.norgren.com

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