

2/2 and 3/2 Poppet Valves
Electrically Actuated
G $\frac{1}{8}$, G $\frac{1}{4}$, CNOMO and 7 mm interface

- Extensive range of power and orifice size options
- Removable coil
- Manifold rail for 1 to 20 valves
- Reduced installation height
- Exhaust diffuser supplied as standard
- Normally closed and normally open types



Technical Data

Medium:

Compressed air, filtered, lubricated or non-lubricated.

Operation:

Poppet valve, directly actuated with spring return.

Mounting:

Through holes in sub-base, threaded on single station.

Port Size:

G $\frac{1}{8}$, G $\frac{1}{4}$ or 3mm (CNOMO and Interface)

Operating Pressure:

Up to 10 bar. See table overleaf.

Orifice Sizes:

1,0 mm, 1,5 mm, 2,0 mm, 2,5 mm and 3,0 mm.

See table overleaf.

Flow:

See details on page 5.4.042.03

Operating Temperature:

-30°C* to +90°C supply air

-30°C* to +50°C ambient

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

Response Times:

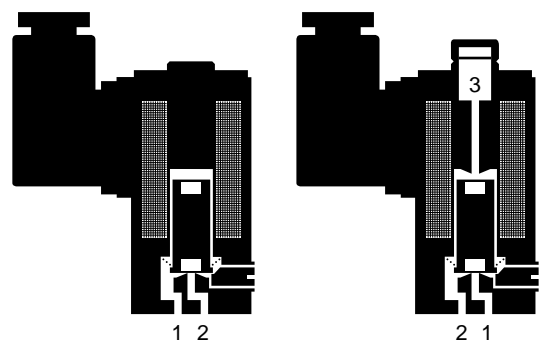
8 – 15 ms

Materials:

Glass reinforced thermoplastic encapsulated coil, polyester interface, stainless iron armature, stainless steel tube and spring, zinc alloy (G $\frac{1}{8}$ and CNOMO) or brass (G $\frac{1}{4}$) base, nitrile rubber seals.

Ordering Information

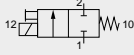
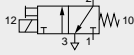
To order, quote model number as indicated in the tables overleaf, e.g. V04X486L-B623B for a 3/2 model with an interface base, a 2 mm orifice and a 4,5 W, 24 V d.c. coil complete with plug. Coil assemblies can also be supplied, quote reference from table overleaf inserting the voltage code where marked*.



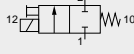
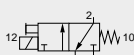


General Information


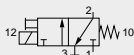
Excel V03

Symbol	Model	Base	Orifice (mm)	Maximum Operating Pressure (bar)	Weight (kg)	Coil Assembly without terminal box
	V03X286J-B613A	Interface	1,0	10	0,20	V03X286A-Q1213
	V03A286J-B613A	G $\frac{1}{8}$	1,0	10	0,24	V03X286A-Q1213
	V03X486J-B613A	Interface	1,0	10	0,20	V03X286A-Q1213
	V03X486K-B613A	Interface	1,5	4	0,20	V03X286A-Q1213
	V03A486J-B613A	G $\frac{1}{8}$	1,0	10	0,24	V03X286A-Q1213
	V03A486K-B613A	G $\frac{1}{8}$	1,5	4	0,24	V03X286A-Q1213
	V03Y486J-B613A	CNOMO	1,0	10	0,30	V03X286A-Q1213
	V03Y486K-B613A	CNOMO	1,5	4	0,30	V03X286A-Q1213

Excel V04

Symbol	Model	Base	Orifice (mm)	Maximum Operating Pressure (bar)	Weight (kg)	Coil Assembly without terminal box
	V04X286K-B62*A	Interface	1,5	10	0,20	V04X286A-Q122*
	V04X286L-B62*A	Interface	2,0	10	0,20	V04X286A-Q122*
	V04X286M-B62*A	Interface	2,5	10	0,20	V04X286A-Q122*
	V04A286K-B62*A	G $\frac{1}{8}$	1,5	10	0,24	V04X286A-Q122*
	V04A286L-B62*A	G $\frac{1}{8}$	2,0	10	0,24	V04X286A-Q122*
	V04A286M-B62*A	G $\frac{1}{8}$	2,5	10	0,24	V04X286A-Q122*
	V04B286L-B42*A	G $\frac{1}{4}$	2,0	10	0,32	V04X286A-Q122*
	V04B286M-B42*A	G $\frac{1}{4}$	2,5	10	0,32	V04X286A-Q122*
	V04B286N-B42*A	G $\frac{1}{4}$	3,0	7	0,32	V04X286A-Q122*
	V04X486J-B62*A	Interface	1,0	10	0,20	V04X286A-Q122*
	V04X486K-B62*A	Interface	1,5	10	0,20	V04X286A-Q122*
	V04X486L-B62*A	Interface	2,0	10	0,20	V04X286A-Q122*
	V04X486M-B62*A	Interface	2,5	4	0,20	V04X286A-Q122*
	V04A486J-B62*A	G $\frac{1}{8}$	1,0	10	0,24	V04X286A-Q122*
	V04A486K-B62*A	G $\frac{1}{8}$	1,5	10	0,24	V04X286A-Q122*
	V04A486L-B62*A	G $\frac{1}{8}$	2,0	10	0,24	V04X286A-Q122*
	V04A486M-B62*A	G $\frac{1}{8}$	2,5	4	0,24	V04X286A-Q122*
	V04Y486K-B62*A	CNOMO	1,5	10	0,30	V04X286A-Q122*
	V04Y486L-B62*A	CNOMO	2,0	10	0,30	V04X286A-Q122*
	V04Y486M-B62*A	CNOMO	2,5	4	0,30	V04X286A-Q122*

Excel V05

Symbol	Model	Base	Orifice (mm)	Maximum Operating Pressure (bar)	Weight (kg)	Coil Assembly without terminal box
	V05X286M-B63*A	Interface	2,5	10	0,20	V05X286A-Q123*
	V05A286M-B63*A	G $\frac{1}{8}$	2,5	10	0,24	V05X286A-Q123*
	V05B286M-B43*A	G $\frac{1}{4}$	2,5	10	0,32	V05X286A-Q123*
	V05B286N-B43*A	G $\frac{1}{4}$	3,0	10	0,32	V05X286A-Q123*
	V05X486K-B63*A	Interface	1,5	10	0,20	V05X286A-Q123*
	V05X486L-B63*A	Interface	2,0	10	0,20	V05X286A-Q123*
	V05X486M-B63*A	Interface	2,5	10	0,20	V05X286A-Q123*
	V05A486K-B63*A	G $\frac{1}{8}$	1,5	10	0,24	V05X286A-Q123*
	V05A486L-B63*A	G $\frac{1}{8}$	2,0	10	0,24	V05X286A-Q123*
	V05A486M-B63*A	G $\frac{1}{8}$	2,5	10	0,24	V05X286A-Q123*
	V05B486L-B43*A	G $\frac{1}{4}$	2,0	10	0,24	V05X286A-Q123*
	V05B486M-B43*A	G $\frac{1}{4}$	2,5	10	0,24	V05X286A-Q123*
	V05Y486K-B63*A	CNOMO	1,5	10	0,30	V05X286A-Q123*
	V05Y486L-B63*A	CNOMO	2,0	10	0,30	V05X286A-Q123*
V05Y486M-B63*A	CNOMO	2,5	10	0,30	V05X286A-Q123*	

*Insert voltage code from Voltage Codes table page 5.4.042.03.

All models are available without manual override. Change 10th digit to 1 e.g. V04X486J-B12*A.

CNOMO versions are available with a push to operate spring return manual override. Change 10th digit to 3 e.g. V04Y486L-B32*A.

Normally open 3/2 versions are available for Excel V04 and Excel V05 in G $\frac{1}{8}$ and Interface format. Please contact our Technical Service.

Valve and Base Options

Size	7mm Interface Mounted Valve	G $\frac{1}{8}$ Valve	G $\frac{1}{4}$ Valve	CNOMO Mounted Valve	Fixed Length Manifold	Manifold/Valve Assemblies
Excel 1	V03X	V03A	V03B	V03Y	M/P35598/t	V03XΔ86Δ-H613#
Excel 3	V04X	V04A	V04B	V04Y	M/P35598/t	V04XΔ86Δ-H62*#
Excel 5	V05X	V05A	V05B	V05Y	M/P35598/t	V05XΔ86Δ-H63*#



Model Codes

V03X286J-B613A

Family: _____

Base Type: _____

Function: _____

Solenoid Operator: _____

Spring Return: _____

Orifice: _____

Integral Design: _____

Manual Operator: _____

Power: _____

Voltage Code: _____

Terminal Box: _____

Family V03
 V04
 V05

Base Type **Base** **Inlet Orifice sizes**

X = Interface 1,0; 1,5; 2,0; 2,5 mm

Y = CNOMO 1,0; 1,5; 2,0; 2,5 mm

A = G $\frac{1}{8}$ 1,5; 2,0; 2,5 mm

B = G $\frac{1}{4}$ 2,0; 2,5; 3,0 mm

Function

2 = 2/2 Normally closed

3 = 3/2 Normally open

4 = 3/2 Normally closed

Solenoid Operator 8 All valves

Spring Return 6 All valves

Inlet Orifice

J = 1,0 mm

K = 1,5 mm

L = 2,0 mm

M = 2,5 mm

N = 3,0 mm

Integral Design B All valves

Manual Operator 1 = None

3* = Push to operate spring return

4 = Lever, memory type

6* = Screwdriver operated,
memory type

Power

1 = 1 W (Excel 1 models only)

2 = 4,5 W (Excel 3 models only)

3 = 9 W (Excel 5 models only)

Voltage Code See 'Voltage Codes' opposite

Terminal Box

A = None

B = Standard plug with Pg9
cable gland

G = Indicator plug
with Pg 9 cable gland

* Not available on G $\frac{1}{4}$

Note: This table should be used for identification purposes only and not to build up model variants.

Flow Characteristics

Inlet Orifice Δ mm	C	b	A	NFPA Cv
1	0,15	0,61	0,95	0,04
1,5	0,30	0,36	1,26	0,07
2	0,57	0,30	2,36	0,14
2,5	0,77	0,30	3,05	0,19
3,0	1,16	0,49	6,25	0,28

The above figures are based on valves mounted on a G $\frac{1}{8}$ base. They are typical of all base styles as the orifice diameter is the limiting factor.

* Voltage Codes

Voltage	Codes
6 V d.c.	1
12 V d.c.	2
24 V d.c.	3
48 V d.c.	5
110 V d.c.	7
24 V 50/60 Hz	4
48 V 50/60 Hz	6
110 – 120 V 50/60 Hz	8
220 – 240 V 50/60 Hz	9

Electrical Details

Voltage Tolerance:	±10%
Inrush/Hold	Excel V03 d.c. 1,0 W Excel V04 d.c. 4,5 W a.c. 14/10 VA Excel V05 d.c. 9,0 W a.c. 27/20 VA 100% E.D.
Terminal Box:	3 pin plug (DIN 43 650 Form A) May be rotated at 90° intervals
Manual Override	Screwdriver operated, memory type, standard
Protection Class:	IP 65 (DIN 40 050) with terminal box fitted

Note: The Excel 1 models are only available with the 24 V d.c. coil.

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.

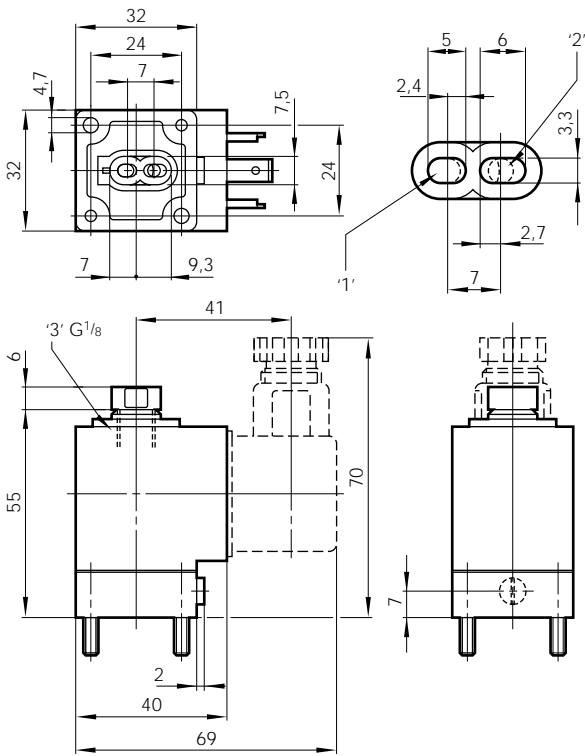
Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in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

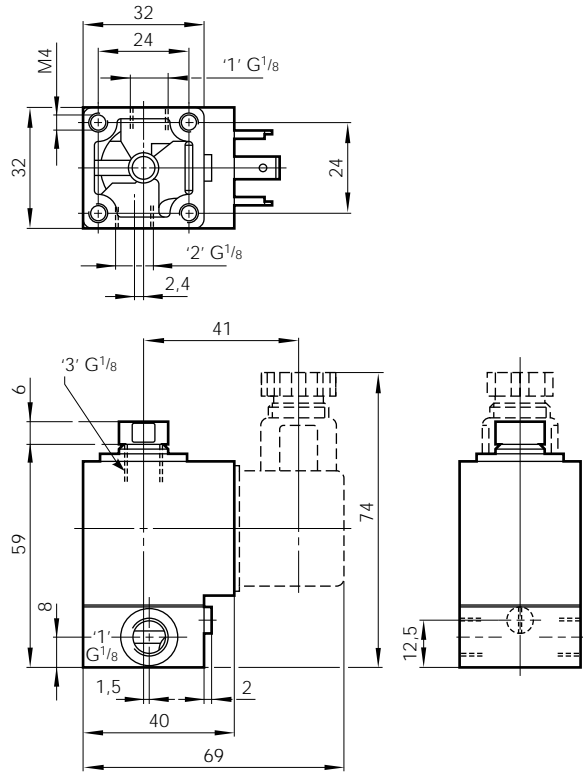
System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.



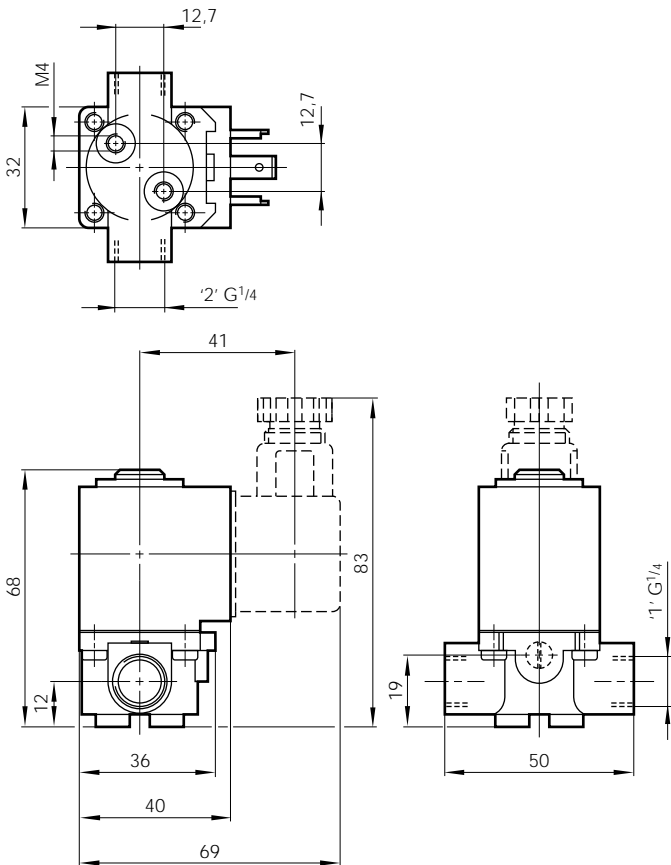
V03X, V04X and V05X Models Interface Mounted Valves



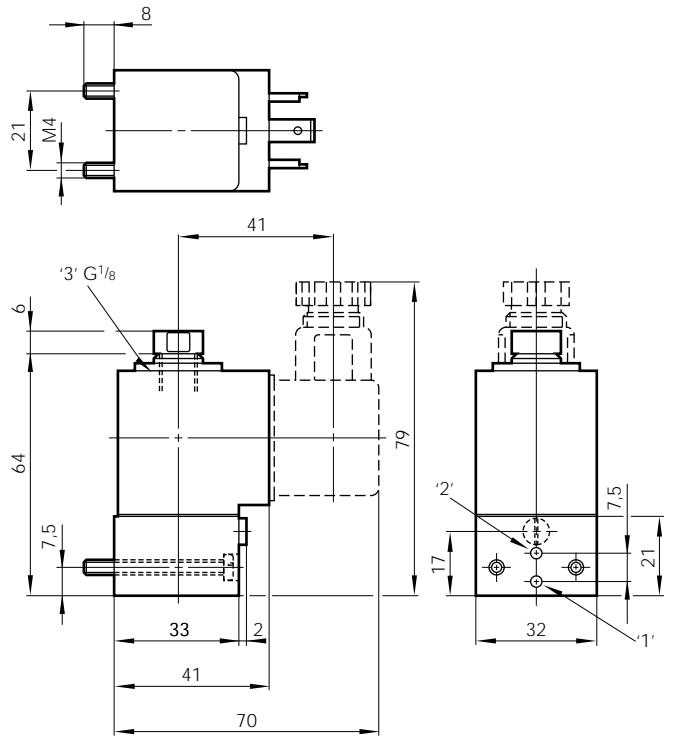
V03A, V04A and V05A Models G¹/₈ Valves



V03B, V04B and V05B Models G¹/₄ Valves



V03Y, V04Y and V05Y Models CNOMO Mounted Valves





Fixed Length Manifold

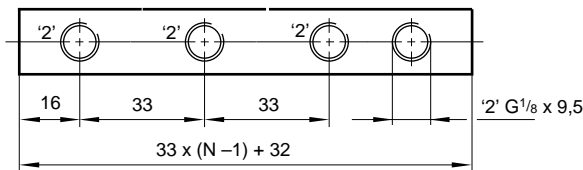
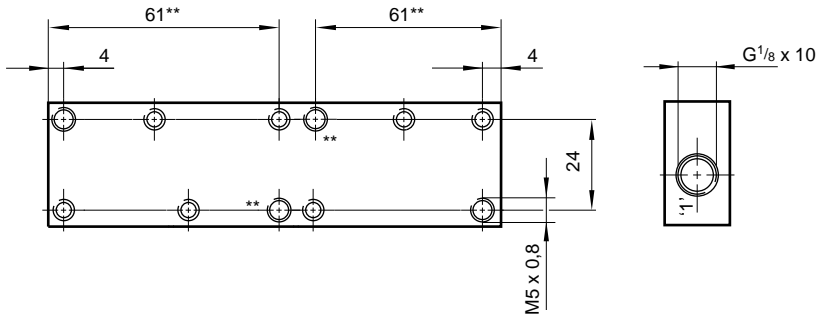
M/P35598/*

Weight = N x 0,041 Kg

G^{1/8}

N = Number of stations

* indicates the number of stations (1 – 20)



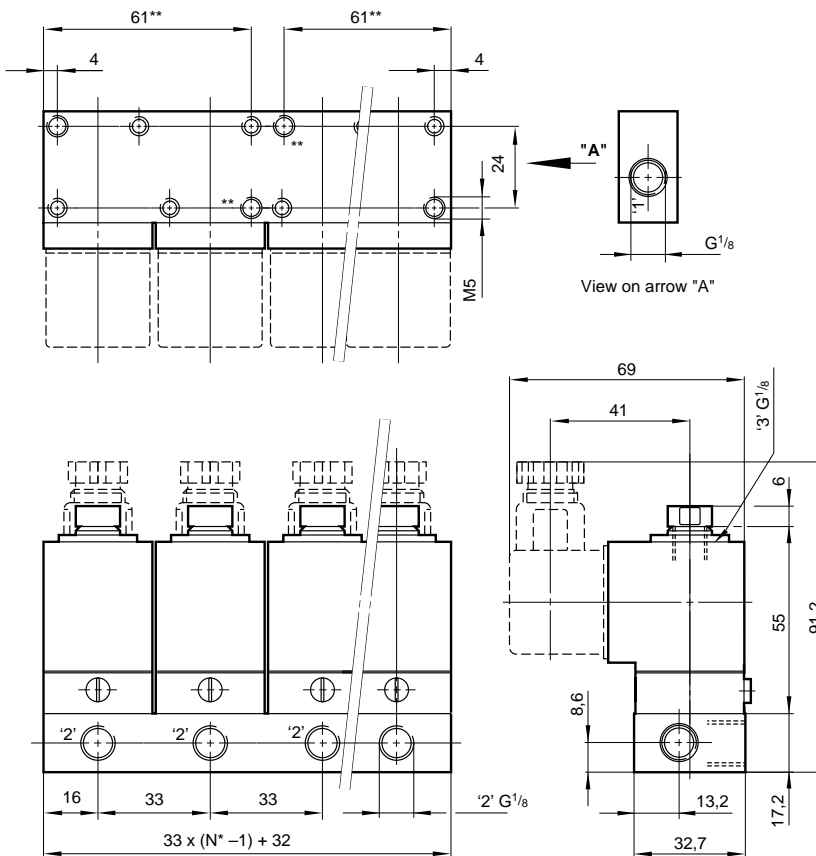
N = Number of stations

** Two additional holes with five or more stations

Manifold/Valve Assemblies

Interface mounted valves can be supplied pre-assembled on manifolds.

Select the basic valve required and quote the associated manifold/valve assembly model using the table below.



	Basic Valve Model	Manifold/Valve Assembly Model
Excel V03	V03X286J-B613A	V03X286J-H613#
	V03X486J-B613A	V03X486J-H613#
	V03X486K-B613A	V03X486K-H613#
Excel V04	V04X286K-B62*A	V04X286K-H62*#
	V04X286L-B62*A	V04X286L-H62*#
	V04X286M-B62*A	V04X286M-H62*#
	V04X486J-B62*A	V04X486J-H62*#
	V04X486K-B62*A	V04X486K-H62*#
	V04X486L-B62*A	V04X486L-H62*#
	V04X486M-B62*A	V04X486M-H62*#
Excel V05	V05X286M-B61*A	V05X286M-H63*#
	V05X486K-B61*A	V05X486K-H63*#
	V05X486L-B61*A	V05X486L-H63*#
	V05X486M-B61*A	V05X486M-H63*#

Insert number of stations (1 - 20 stations)

1 = 1 station

2 = 2 station

A = 10 station

B = 11 station

H = 19 Station

J = 20 station

* Insert Voltage Code from page 5.4.042.03



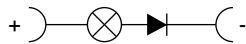
Options and Accessories

Terminal Box with Lamp Indicator

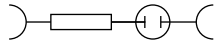
Voltage Range	Terminal Box	Maximum current consumption of indicator circuit	Identification code
12 – 48 V	M/P24120/1*	35 mA typical	
20 – 24 V	M/P24120/4	20 mA typical	
90 – 130 V d.c.	M/P24120/2	15 mA typical	
80 – 130 V a.c.**	M/P24120/2	15 mA typical	
150 – 230 V a.c.**	M/P24120/3	15 mA typical	

*Reduced light intensity at 12 V

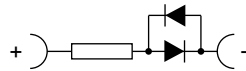
**Suitable for use at any frequency.



Lamp arrangement M/P24120/1
1 blocking diode, 1 filament lamp



Lamp arrangement M/P24120/2 and M/P24120/3
1 glow lamp, 1 resistor



Lamp arrangement M/P24120/4
1 fluorescent diode, 1 resistor, 1 diode

Light Emitting Gaskets

Voltage Range	Terminal Box	Power consumption
12 – 24 V a.c./d.c.	M/P40861	0,25 W
110 – 120 V a.c./d.c.	M/P40880	0,25 W
220 – 240 V a.c./d.c.	M/P40862	0,25 W