Solenoid Valves

Servo-acting, Normally Closed or Open

Types 21H7-9, 21W3-7, 3/8" - 2"

APPLICATION

Servo-acting solenoid valves for on-off control of non-aggressive fluids, e.g. air, oil, or water compatible with materials of construction. Minimum pressure drop of 0.2 bar required to ensure satisfactory operation.

FEATURES

- Available normally closed or normally open
- Coil replacement without exposing fluid
- Manual override
- Adjustable pilot throttle available to reduce water hammer size 3/4"-2" (MR)

Types 21H7-9

Types 21W3-7

TYPES AVAILABLE

21H7-9	3/8", 1/2" and 3/4" normally closed only 16 bar max pressure; seals: Viton
21W3-7	3/4" to 2" normally closed (K) or normally open (Z); seals: NBR or Viton

TECHNICAL DATA

Ambient temp:	-20°C to +55°C
Fluid temp:	Dependent on seal material (see list)
Viscosity:	Max. 21 Cst. 3°E
Materials:	Body: brass; inner parts: brass and stainless steel; seals: NBR (Viton FKM or EPDM on request)
Coil voltage:	See page 26
Voltage tolerance:	+/-10%
Consumption:	AC: 25VA inrush, 14VA hold 8 watts AC: 43VA inrush, 27VA hold 14 watts
Duty cycle:	100% continuous rating
Protection class:	IP 65 to DIN 40050 with correctly assembled connectors

NOTE

The line fluid must be completely free of any particles and of any crystal forming substance as these can obstruct the functioning of the servo systems.
The use of an inline filter is recommended.

HOW TO ORDER

Example: 21W 3 K B 190 + voltage

VALVE TYPE
21H7-8-9
21W3-7
21W3-7 MR throttle device

ORIFICE SIZES

190	19mm
250	25mm
350	35mm
400	40mm
500	50mm

PORTS
21W Series only

3	G3/4"
4	G1"
5	G1 1/4"
6	G1 1/2"
7	G2"

SEAL MATERIAL

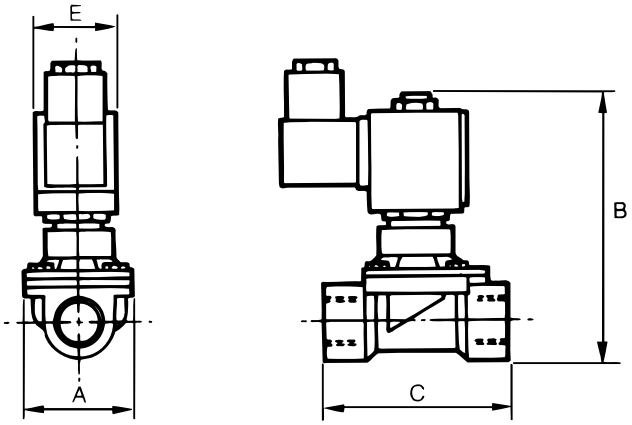
B NBR	-10°C to +90°C
V VITON	-20°C to +140°C
E EPDM on request	

FUNCTION
K-Normally closed
Z-Normally open

Solenoid Valves

Servo-acting, Normally Closed or Open
Types 21H7-9, 21W3-7, 3/8" - 2"

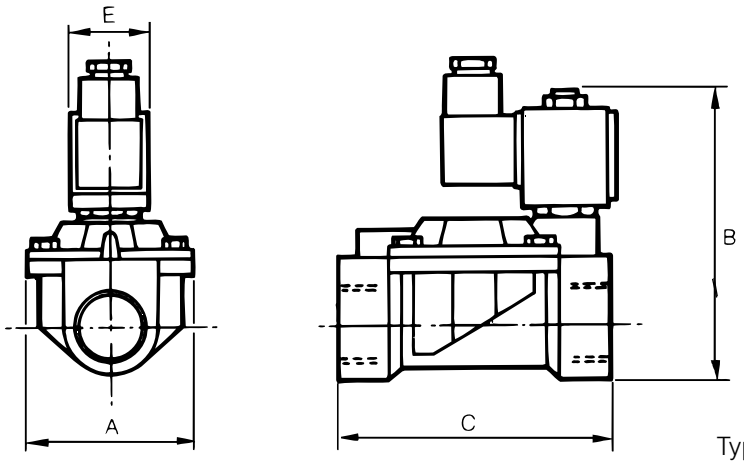
DIMENSIONS (mm)



Types 21H7-9
Sizes 3/8" to 3/4"

Code	Orifice (mm)	Ports	A	B	C	E	Kv (m³/h)	Weight (Kg)	Pressure Range (bar) AC	DC
21H7	12	3/8"	40	92	50	30	2.1	0.28	20	10
21H8	12	1/2"	40	92	50	30	2.7	0.28	20	10
21H9*	18	3/4"	50	96	65	30	3.0	0.65	16	16

* High Power Coil



Type 21W3-7
Sizes 3/4" to 2"

Code	Orifice (mm)	Ports	A	B	C	E	Kv (m³/h)	Weight (Kg)	Pressure Range (bar)
21W3KB190	19	3/4"	65	105	104	30	8.4	1.15	0.2-16
21W4KB250	25	1"	65	112	104	30	11	1.15	0.2-16
21W5KB350	35	1 1/4"	98	125	144	30	24	2.65	0.2-10
21W6KB400	40	1 1/2"	98	125	144	30	31	2.65	0.2-10
21W7KB500	50	2"	118	141	172	30	45	4.30	0.2-10

Solenoid Valves

Servo-acting, Normally Closed or Open
Type 21WA, 3/8" - 1/2"

APPLICATION

Servo-acting solenoid valves for on-off control of non-aggressive fluids, e.g. air, oil, or water compatible with materials of construction. Minimum pressure drop of 0.2 bar required to ensure satisfactory operation.

FEATURES

- Available normally closed or normally open*
- Coil replacement without exposing fluid
- Manual override on request

TECHNICAL DATA

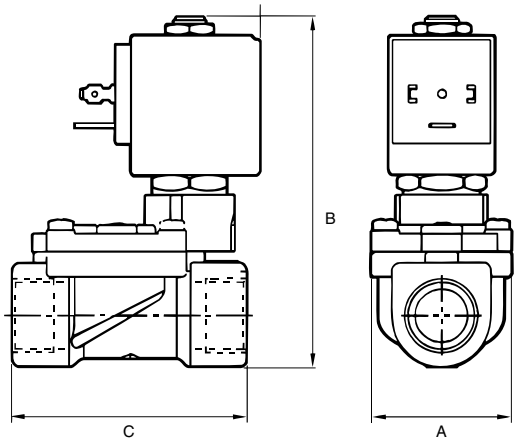
Ambient temp:	-20°C to +55°C
Fluid temp:	Dependent on seal material
Viscosity:	Max. 12 Cst. 2°E
Materials:	Body: brass; inner parts: brass and stainless steel; seals: Viton
Coil voltage:	See page 26
Voltage tolerance:	+/-10%
Consumption:	AC: 25VA inrush, 14VA hold 8 watt DC AC: 15VA inrush, 11VA hold 5 watt DC
Duty cycle:	100% continuous rating
Protection class:	IP 65 to DIN 40050 with correctly assembled connectors

N.C.

* N.C. / N.O.

NOTE

The line fluid must be completely free of any particles and of any crystal forming substance as these can obstruct the functioning of the servo systems.
The use of an inline filter is recommended.



DIMENSIONS (mm)

Code	Pipe Size	A mm	B mm	C mm
21WA3ROV130	3/8"	40	84.5	60
21WA4ROV130	1/2"			66

Codes	Pipe Size	A mm	B mm	C mm
21WA3KOV130	3/8"	40	97	60
21WA4KOV130	1/2"			66

FLOW & PRESSURE RATING CHART (bar)

Pipe Size	Code	Fluid Temp.		Ø	Pressure bar Max			Watt	Kv m³/h
		Min°C	Max°C	mm	Min	AC/DC (n.c.)	AC/DC (n.o.)		
G3/8"	21WA3ROV130	-10	+140	13	0.2	12	-	5	3.6
G1/2"	21WA4ROV130	-10	+140		0.2	12	-		4.2
G3/8"	21WA3KOV130	-10	+140	13	0.2	16	16	8	3.6
G1/2"	21WA4KOV130	-10	+140		0.2	16	16		4.2

Solenoid Valves

Servo-acting, Normally Closed
Type 21W8-9, 2½" - 3"

APPLICATION

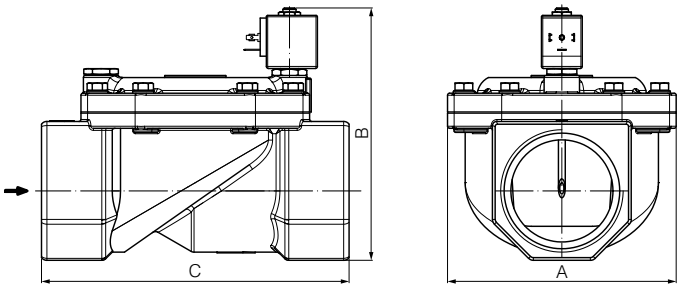
Servo-acting solenoid valves for on-off control of non-aggressive fluids, e.g. air, oil, or water compatible with materials of construction. Minimum pressure drop of 0.3 bar required to ensure satisfactory operation.

FEATURES

- Normally closed
- Coil replacement without exposing fluid
- Wide range of coil voltages available
- High pressure version available
- Built-in adjustable anti-hammer regulation

TECHNICAL DATA

Ambient temp:	-10°C to +55°C
Fluid temp:	-10°C to +90°C
Viscosity:	Max. 12 Cst. 2°E
Materials:	Body: brass; inner parts: brass and stainless steel; seal: NBR
Coil voltage:	See page 26
Voltage tolerance:	+/-10%
Consumption:	AC: 25VA inrush, 14VA hold 8 watts DC
Duty cycle:	100% continuous rating
Protection class:	IP 65 to DIN 40050 with correctly assembled connectors



DIMENSIONS (mm)

Code	Pipe Size	A mm	B mm	C mm
21W8KB650	G2½"	168	187	226
21W8KB650-HP				
21W9KB750	G3"			
21W9KB750-HP				

FLOW & PRESSURE RATING CHART (bar)

Pipe	Code	Max Viscosity Cst	Max Viscosity °E	Ø mm	Kv m³/h	Power Watt	Pressure bar Min.	Pressure bar M.O.P.D. AC	Pressure bar M.O.P.D. DC
G2½"	21W8KB650	12	~2	65	75	8	0.3	5	5
	21W8KB650-HP						3	15	15
G3"	21W9KB750			75	84		0.3	5	5
	21W9KB750-HP						3	15	15

* Note: the solenoid is supplied with already assembled nozzle Ø 1.2mm in the standard configuration. Undersized and oversized nozzles are supplied to adjust the switching velocity depending on the valve application.

Solenoid Valves

Coupled Diaphragm, Normally Closed

Types 21H, 3/8" - 1 1/2"

APPLICATION

Solenoid valves Type 21H are normally closed valves, energised to open and similar in design to servo-acting valves 21W Series but with the diaphragm coupled to the solenoid plunger. This enables the valve to operate from zero pressure without the need for a pressure differential, thus overcoming the problems associated with gravity feed and circulatory systems.

FEATURES

- Operate from zero pressure, no differential required
- Coil replacement without exposing fluid

TYPES AVAILABLE

G3/8" to 1/2", with 8 watt, 12 watt and 14 watt.
G3/4" to 1 1/2", with 8 watt, 12 watt and 14 watt.

TECHNICAL DATA

Ambient temp:	-20°C to +55°C
Fluid temp:	-10°C to +90°C NBR(+140°C Viton)
Viscosity:	Max. 21 Cst. 3°E
Materials:	Seal: NBR or Viton
Coil voltage:	See page 26
Voltage tolerance:	+/-10%
Consumption:	8 watts 25/14 VA 12 watts 35/25 VA 14 watts 43/27 VA
Duty cycle:	100% continuous rating
Protection class:	IP 65 to DIN 40050 with correctly assembled connectors

HOW TO ORDER

Example: 21H 11 K B 120

VALVE TYPE

PORT SIZE

11	G3/8"
12	G1/2"
F5	G3/4"
F6	G1"
F7	G1 1/4"
F8	G1 1/2"

FUNCTION
Normally closed

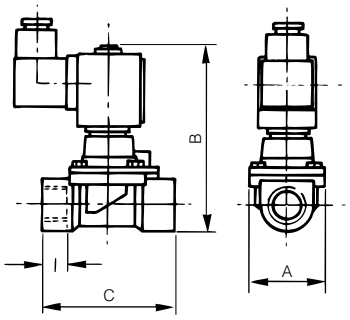
ORIFICE SIZES

120	12mm
200	20mm
250	25mm
350	35mm
400	40mm

SEAL MATERIAL

B	NBR
V	VITON

DIMENSIONS (mm)



Code	A	B	C	I
21H11	40	99	50	11
21H11	40	99	50	11
21H12	40	99	50	14
21H12	40	99	50	14
21HF5	65	103	104	14
21HF6	65	110	104	17
21HF7	94	130	128	22
21HF8	94	130	128	22

FLOW & PRESSURE RATING CHART (bar)

Code	Ports	Orifice	AC	DC	Watt	Kv*
21H11K-120	3/8"	12	16	1.5	8	1.6
21H11K-120	3/8"	12	20	6	12	1.6
21H11K-120	3/8"	12	20	15	14	1.6
21H12K-120	1/2"	12	16	1.5	8	1.9
21H12K-120	1/2"	12	20	6	12	1.9
21H12K-120	1/2"	12	20	15	14	1.9
21HF5K-200	3/4"	20	16	6	8	7.2
21HF5K-200	3/4"	20	16	16	12	7.2
21HF6K-250	1"	25	16	5	8	8.4
21HF6K-250	1"	25	16	16	12	8.4
21HF7K-350	1 1/4"	35	16	6	14	16.2
21HF7K-350	1 1/4"	35	16	0	12	16.2
21HF8K-400	1 1/2"	40	16	6	14	16.8
21HF8K-400	1 1/2"	40	16	0	12	16.8

*Kv measured in m3/h water at 1 barΔP