

Modular substrate for gas delivery systems

1.125" W-Seal for Integrated Gas Systems

Features

- Valves - Modular Substrate Components.
 - Pneumatic Valve
 - Manual Valve
 - Pneumatic Block Valve
 - Check Valve
 - Metering Valve
- Blocks & Gaskets - Modular Substrate Components
 - Base Block
 - Joint Block
 - W-Seal Gasket
 - Joint Bolt



IGS CONCEPT

1. IGS DEFINITION

Abbreviated from of intergrated Gas System.

- Spatial effectiveness and ease of installation and maintenance yet accommodating the functionality of conventionality of conventional DCR type by engineering the layout in block structure.

2. SUPERIOR RELIABILITY

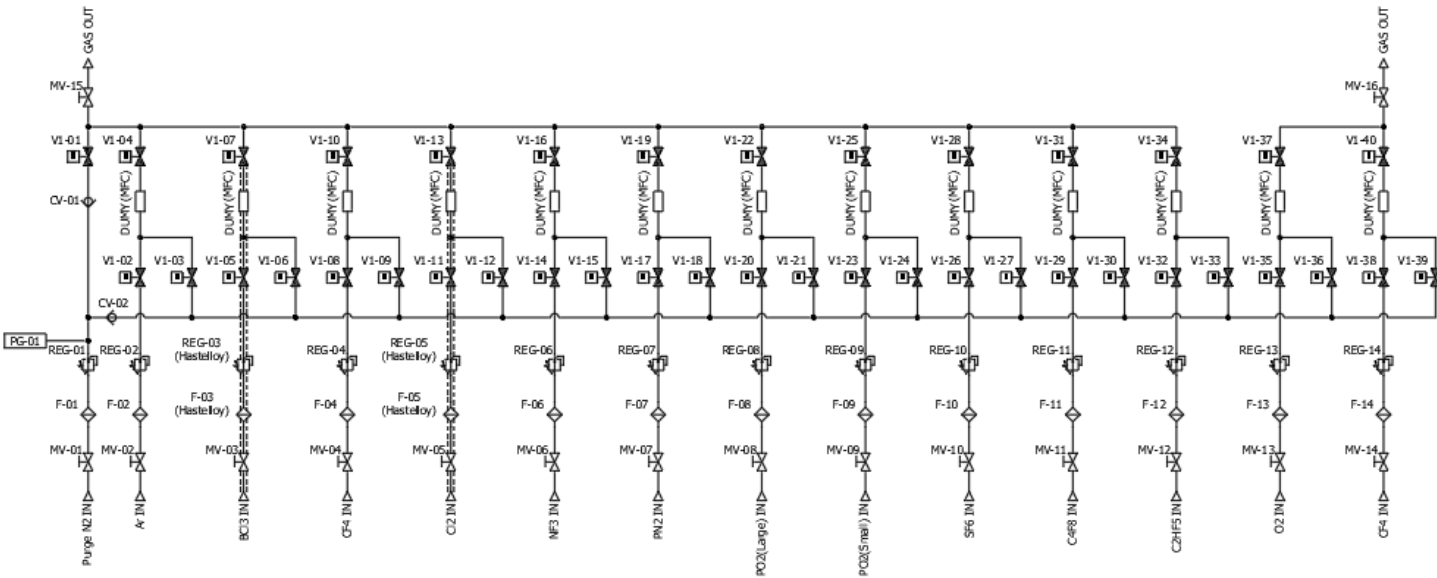
- W-Seal : Sealing Forces Independent of Component(s) Receiving External Forces
- Leveling System : IGS baseblocks are completely idolated from the baseplate by means sleeves and rubber bushing, a tight seal is also always maintained.
- Silver-Plated Cap Bolts : Able to endure 100 or more connect/disconnect cycles.
Silver-Plated bolts should always be used when mounting components to prevent galling.

3. EASY INSTALLATION AND MAINTENANCE

- Top Mounting Method : Allow for assembly and removal of components in one direction.
- All leak detection ports are vertical, enabling leak detection with pinpoint accuracy
- Simple installation.
- Exclusive clenching system prevents bolts from dropping out during installation or maintenance.

IGS GAS PANEL CONFIGURATION

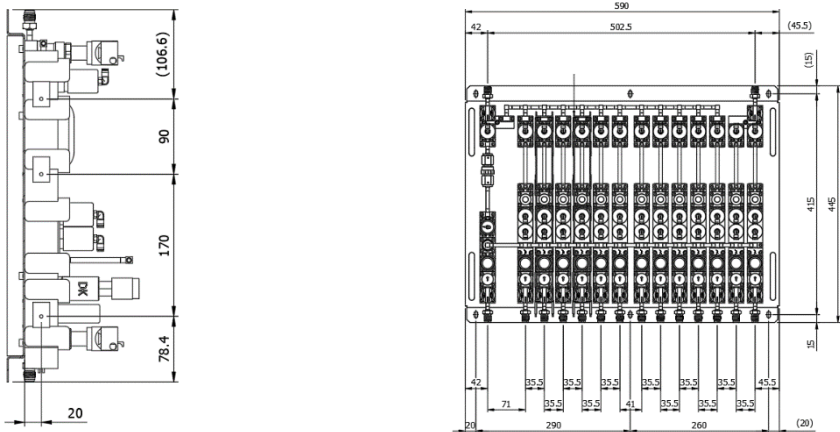
1. FLOW CHART CONFIGURATION



2.COMPONENT SELECTING



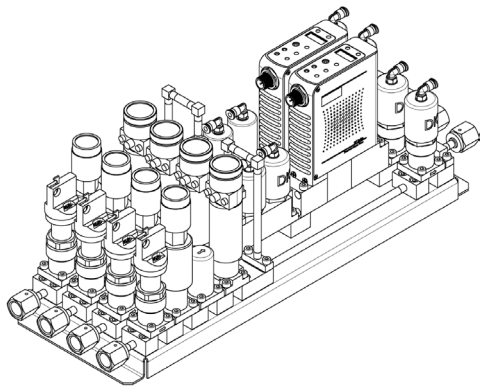
3. 2D DRAWING CREATE





Modular substrate for gas delivery systems
1.125" W-Seal for Integrated Gas Systems

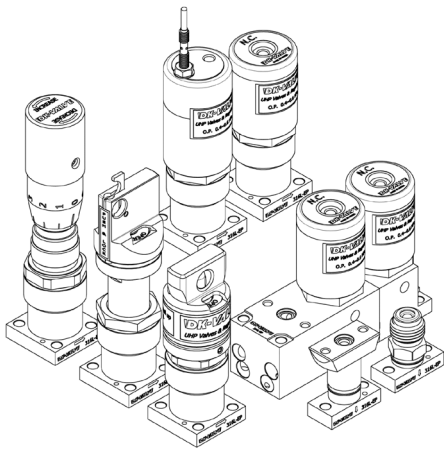
SEMI Compliant Design



SUB MODULE

- DK-LOK's own electropolished.
- SEMI Compliant Design

MODULAR SUBSTRATE COMPONENTS



VALVES

- PNEUMATIC VALVE
- PNEUMATIC BLOCK VALVE
- MANUAL VALVE
- CHECK VALVE
- METERING VALVE
- HYBRID VALVE
- MICRO REGULATOR

Material of Construction

Description	Materials
Body	Stainless Steel 316L VAR
Seat	PCTFE
Diaphragm	Ni-Co Alloy
Spring	SS316WPA

- Wetted Components are listed in blue

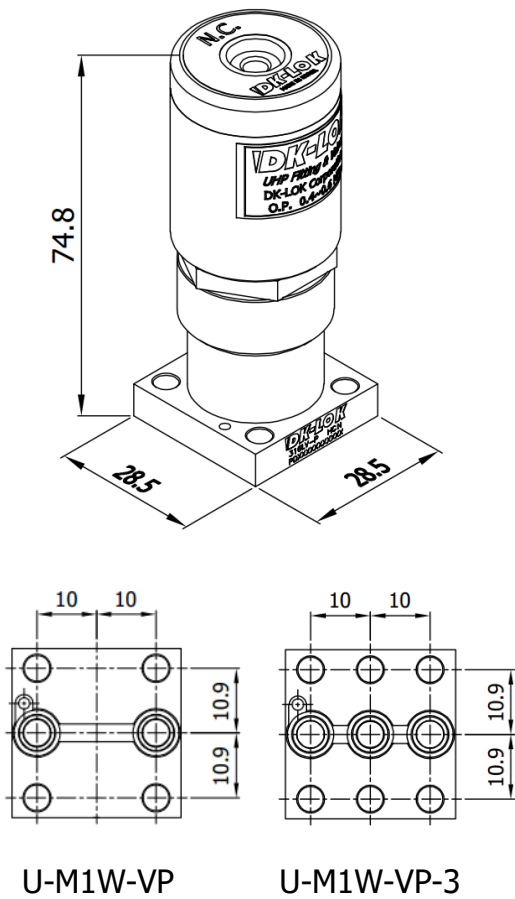
Specification

Internal Leakage Allowance (He) Test Pressure $\leq 1 \times 10^{-2}$ Torr Holding Time ≥ 15 sec.	$\leq 1 \times 10^{-9}$ atm.cc/s
External Leakage Allowance (He) Test Pressure $\leq 1 \times 10^{-2}$ Torr Holding Time ≥ 1 min.	$\leq 1 \times 10^{-9}$ atm.cc/s
Particle Inspection (EP only) Pressure : 60~80 psi N2 Gas Sample Volume : 1CFM 0.1 μ m and Larger	No count

Product Grade

Level	EP
Inner Surface Roughness	Ry $\leq 0.7 \mu$ m / Ra 5 μ in
	Cut off Length : 0.25mm
	Measuring Length : 1.25mm
Polishing	Electro Polishing Finish

PNEUMATIC VALVE



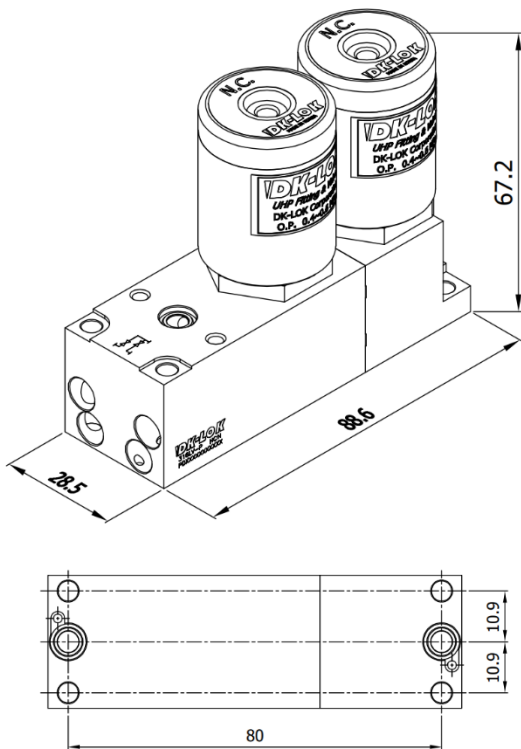
U-M1W-VP

U-M1W-VP-3

Specification:	
Cv	0.3
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10°C ~ 80°C
Actuator Pressure Rating	4 ~ 6 bar (58 ~ 87 psig)
Air Port	M5

Wetted Material:	
Description	Material
Valve Body	Stainless Steel 316L VAR
Valve Seat	PCTFE
Valve Diaphragm	Ni-Co Alloy

PNEUMATIC BLOCK VALVE

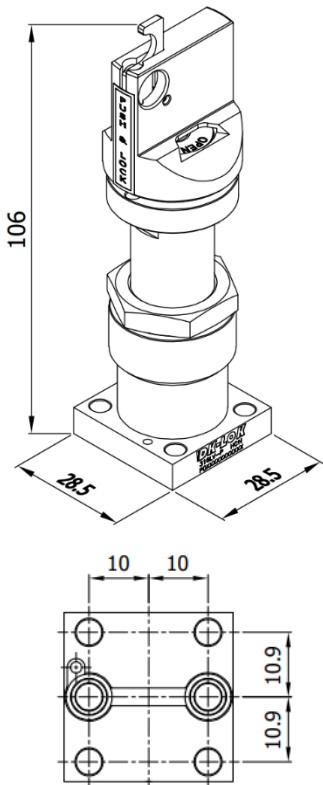


U-M1W-VB

Specification:	
Cv	0.3
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10°C ~ 80°C
Actuator Pressure Rating	4 ~ 6 bar (58 ~ 87 psig)
Air Port	M5

Wetted Material:	
Description	Material
Valve Body	Stainless Steel 316L VAR
Valve Seat	PCTFE
Valve Diaphragm	Ni-Co Alloy

MANUAL VALVE (PUSH LOCK TYPE)

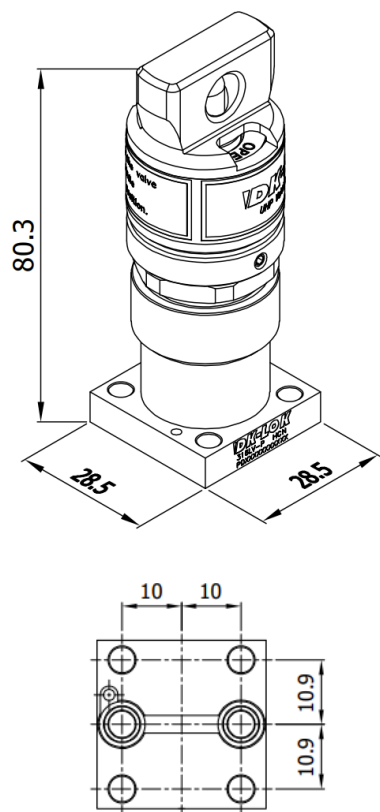


U-M1W-VSP

Specification:	
Cv	0.3
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10°C ~ 80°C

Wetted Material:	
Description	Material
Valve Body	Stainless Steel 316L VAR
Valve Seat	PCTFE
Valve Diaphragm	Ni-Co Alloy

MANUAL VALVE (SCREW TYPE)

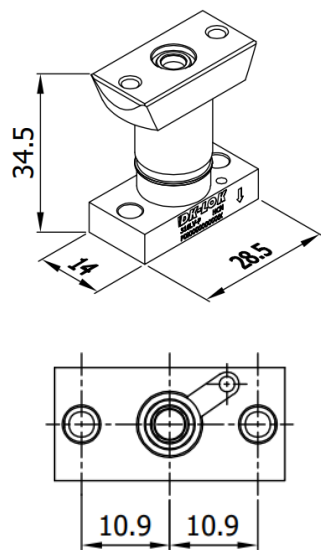


U-M1W-VM

Specification:	
Cv	0.3
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10°C ~ 80°C

Wetted Material:	
Description	Material
Valve Body	Stainless Steel 316L VAR
Valve Seat	PCTFE
Valve Diaphragm	Ni-Co Alloy

CHECK VALVE (PURGE LINE)

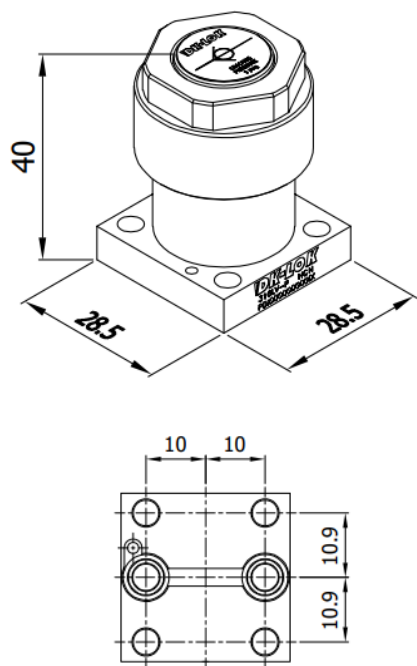


U-M1W-VCP

Specification:	
Cv	0.4
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10°C ~ 80°C

Wetted Material:	
Description	Material
Valve Body	Stainless Steel 316L VAR
Poppet	Stainless Steel 316L VAR
Valve Seat	FKM
Spring	Stainless steel

CHECK VALVE (PURGE LINE)

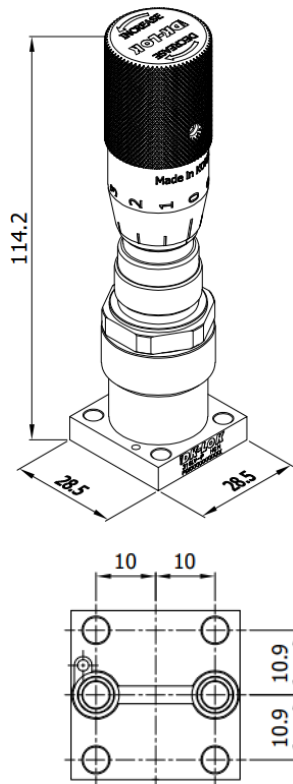


U-M1W-VCL

Specification:	
Cv	0.2
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10°C ~ 80°C

Wetted Material:	
Description	Material
Valve Body	Stainless Steel 316L VAR
Poppet, Stopper	Stainless Steel 316L VAR
Valve Seat	FKM
Spring	Hastelloy

METERING VALVE

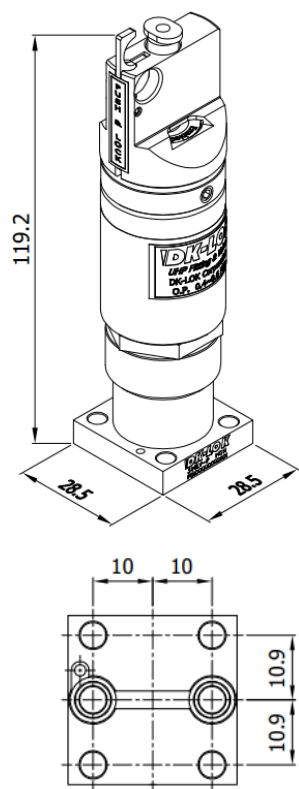


U-M1W-VMT

Specification:	
Cv	0.1
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10°C ~ 80°C

Wetted Material:	
Description	Material
Valve Body	Stainless Steel 316L VAR
Valve Diaphragm	Ni-Co Alloy

HYBRID VALVE

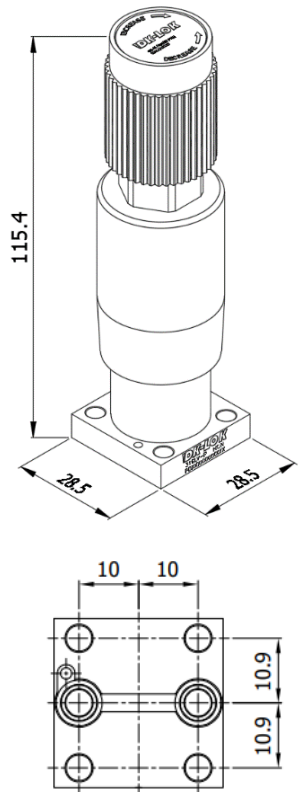


U-M1W-VH

Specification:	
Cv	0.3
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10°C ~ 80°C
Actuator Pressure Rating	4 ~ 6 bar (58 ~ 87 psig)
Air Port	3.2 mm tube

Wetted Material:	
Description	Material
Valve Body	Stainless Steel 316L VAR
Diaphragm	Ni-Co Alloy

MICRO REGULATOR

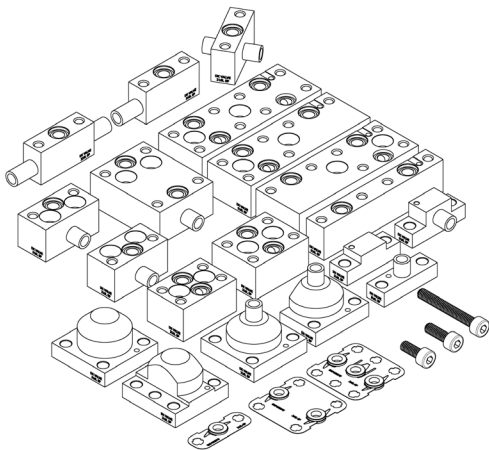


U-M1W-MRG
U-M1W-MRGHF

Specification:	
Cv (MRG)	0.04
Cv (MRGHF)	0.08
Maximum Inlet pressure	10.3 bar (150 psig)
Outlet Pressure Range	0~2.1 / 0~4.1 / 0~6.9 bar (0~30 / 0~60 / 0~100 psig)
Max. Working Temperature	-40°C ~ 60°C

Wetted Material:	
Description	Material
Body	Stainless Steel 316L VAR
Seat	PCTFE
Poppet	Hastelloy
Diaphragm	Hastelloy

MODULAR SUBSTRATE COMPONENTS



BLOCK & GASKET

- BASE BLOCK
- JOINT BLOCK
- W SEAL GASKET
- JOINT BOLT

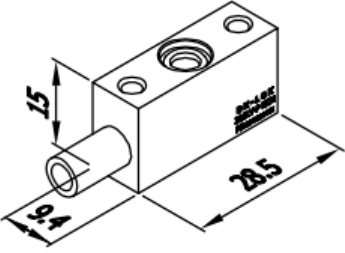
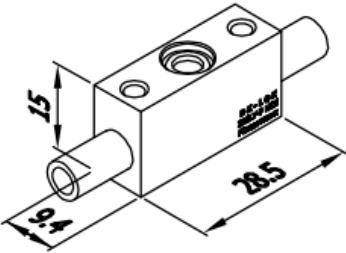
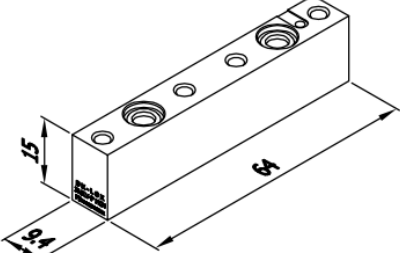
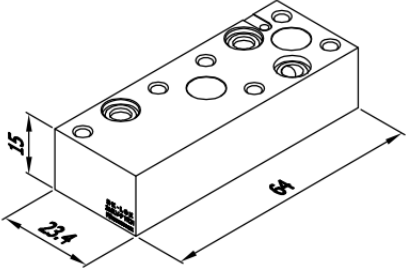
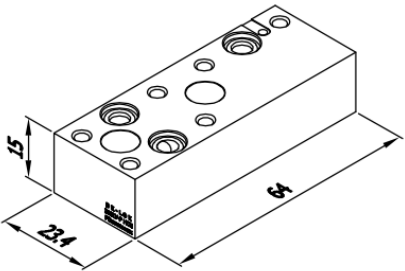
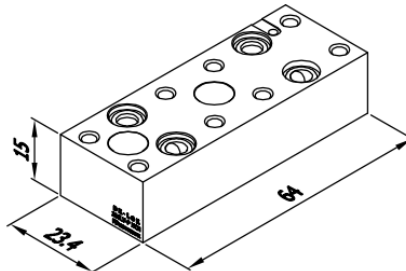
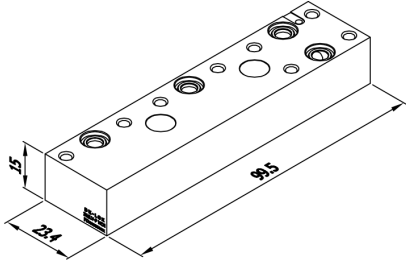
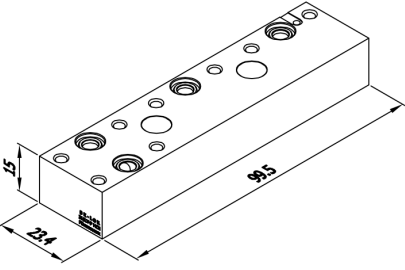
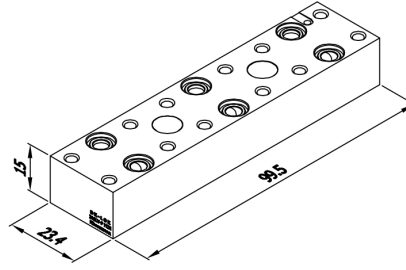
Material of Construction

Description	Materials
Block	Stainless Steel 316L VAR
W-Seal Gasket	Stainless Steel 316L VAR

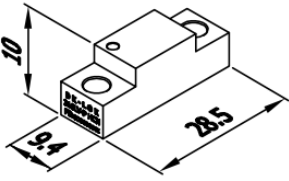
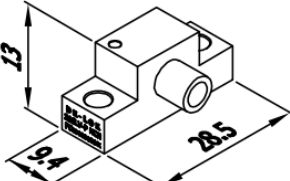
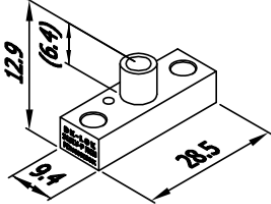
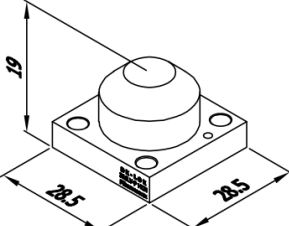
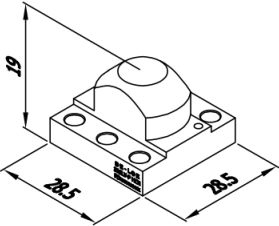
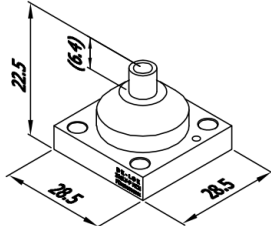
• Wetted Components are listed in blue

BASE BLOCK

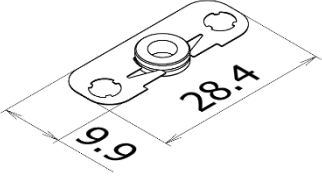
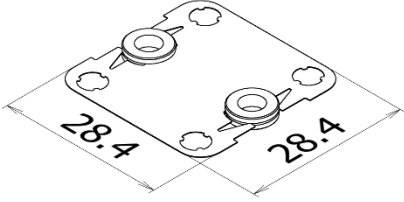
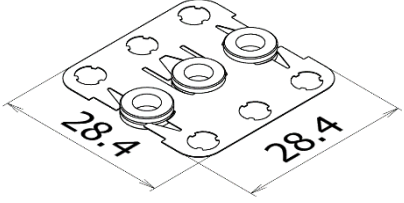
U-M1W-BB-V10-01	U-M1W-BB-V14-01	U-M1W-BB-V28-1BW-01
U-M1W-BB-L-01	U-M1W-BB-LX-01	U-M1W-BBT

		
U-M1W-BB1R11BW	U-M1W-BB1R12BW	U-M1W-BB1R2-01-ASS
		
U-M1W-BB2R21A-01-ASS	U-M1W-BB2R21B-01-ASS	U-M1W-BB2R22-01-ASS
		
U-M1W-BB2R31A-01-ASS	U-M1W-BB2R31C-01-ASS	U-M1W-BB2R33-01-ASS

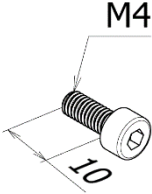
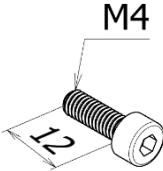
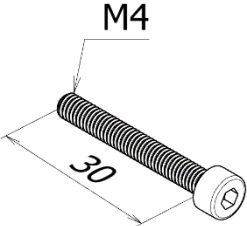
JOINT BLOCK

		
U-M1W-JBC	U-M1W-LJB	U-M1W-JJB
		
U-M1W-JBV20	U-M1W-JBV20-3P	U-M1W-JB21BW

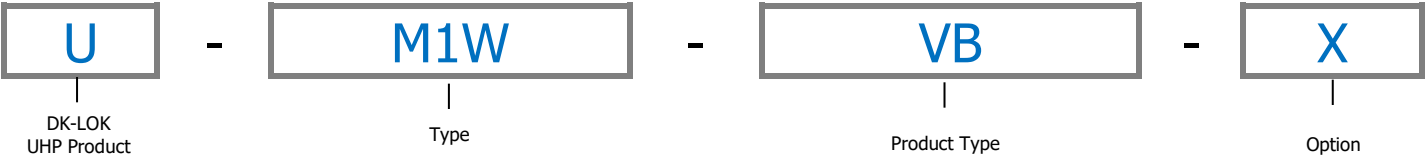
GASKET

		
U-M1W-SG1P	U-M1W-SG2P	U-M1W-SG3P

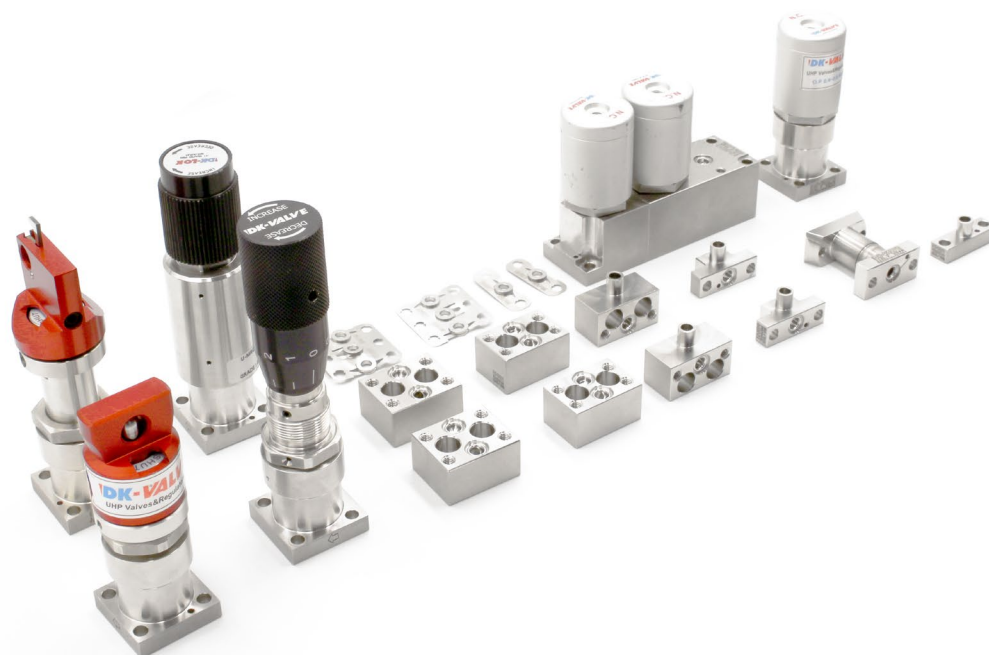
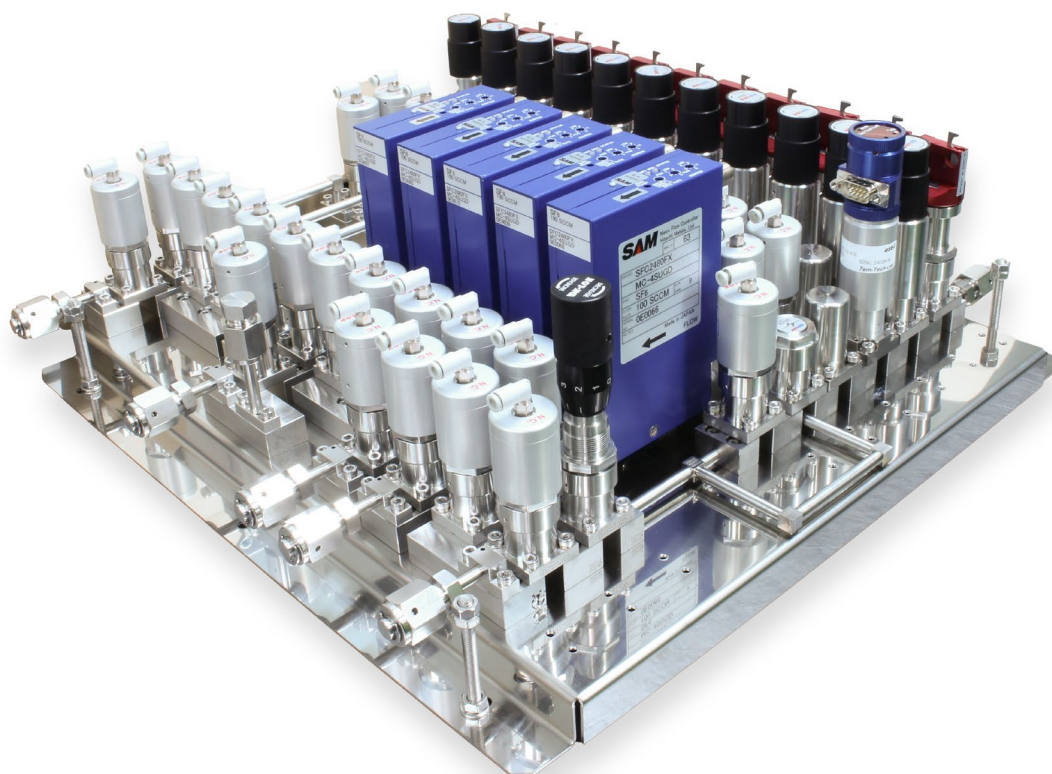
BOLT

		
U-M1W-BT10	U-M1W-BT12	U-M1W-BT30

How to order



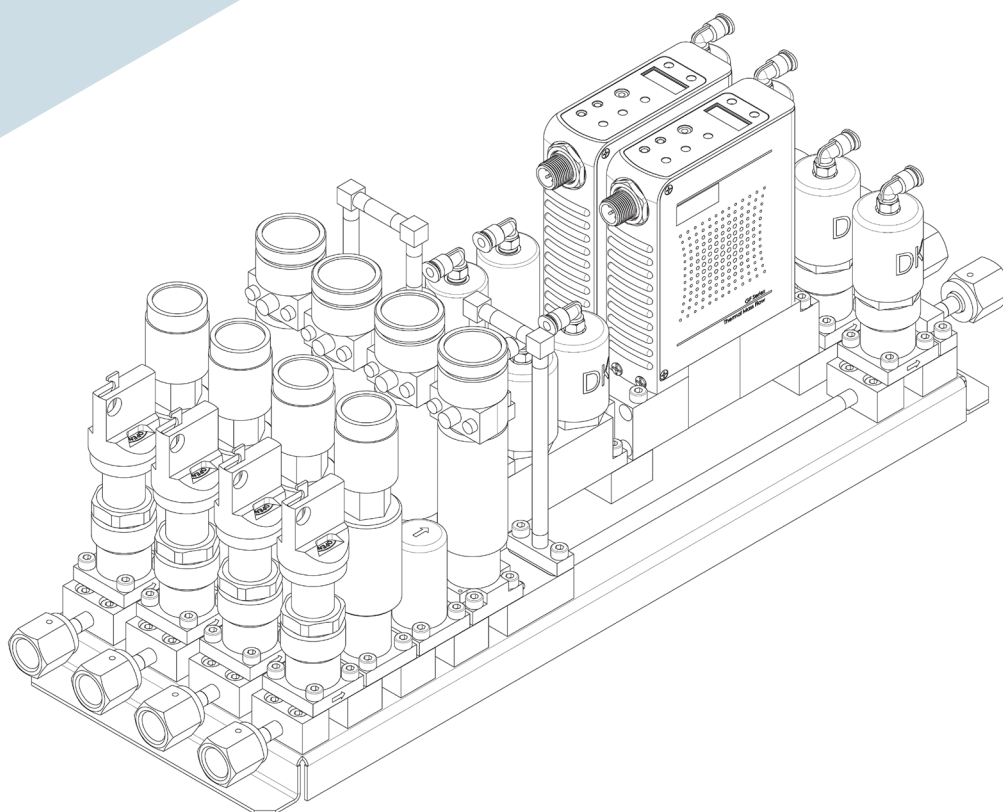
Type	Product Type	Description	Option
Valves	VP (VP-3)	Pneumatic Valve (Normal Close)	
	VB	Pneumatic Block Valve	
	VSP	Manual Valve (Push Lock type)	
	VM	Manual Valve (Screw type)	
	VCP	Check Valve (Purge Line)	
	VCL	Check Valve (Purge Line)	
	VMT	Metering Valve	
	VH	Hybrid Valve	
	MRG (MRGHF)	Micro Regulator	
Base & Joint Blocks	BB-V10-01	BASE BLOCK V10	
	BB-V14-01	BASE BLOCK V14	
	BB-V28-1BW-01	BASE BLOCK V28-1BW	
	BB-L-01	BASE BLOCK L	
	BB-LX-01	BASE BLOCK LX	
	BBT	BASE BLOCK T	
	BB1R11BW	BASE BLOCK 1R1x1BW	
	BB1R12BW	BASE BLOCK 1R1x2BW	
	BB1R2-01-ASS	BASE BLOCK 1R2	
	BB2R21A-01-ASS	BASE BLOCK 2R21A	
	BB2R21B-01-ASS	BASE BLOCK 2R21B	
	BB2R22-01-ASS	BASE BLOCK 2R22	
	BB2R31A-01-ASS	BASE BLOCK 2R31A	
	BB2R31C-01-ASS	BASE BLOCK 2R31C	
	BB2R33-01-ASS	BASE BLOCK 2R33	
	JBC	JOINT BLOCK CAP	
	LJB	JOINT BLOCK L	
	JJB	JUMP JOINT BLOCK	
	JBV20	JOINT BLOCK V20	
	JBV20-3P	JOINT BLOCK V20-3P	
	JB21BW	JOINT BLOCK 2X1BW	
	SG1P	SEAL GASKET 1P	
	SG2P	SEAL GASKET 2P	
	SG3P	SEAL GASKET 3P	
	BT10	BOLT 10mm	
	BT12	BOLT 12mm	
	BT30	BOLT 30mm	





Integrated Gas Systems

No.11-01
Dec. 2021



Modular Substrate for Gas Delivery Systems

Components

1.125 inch W-Seal for Integrated Gas Systems

SEMI Compliant Design

Valves

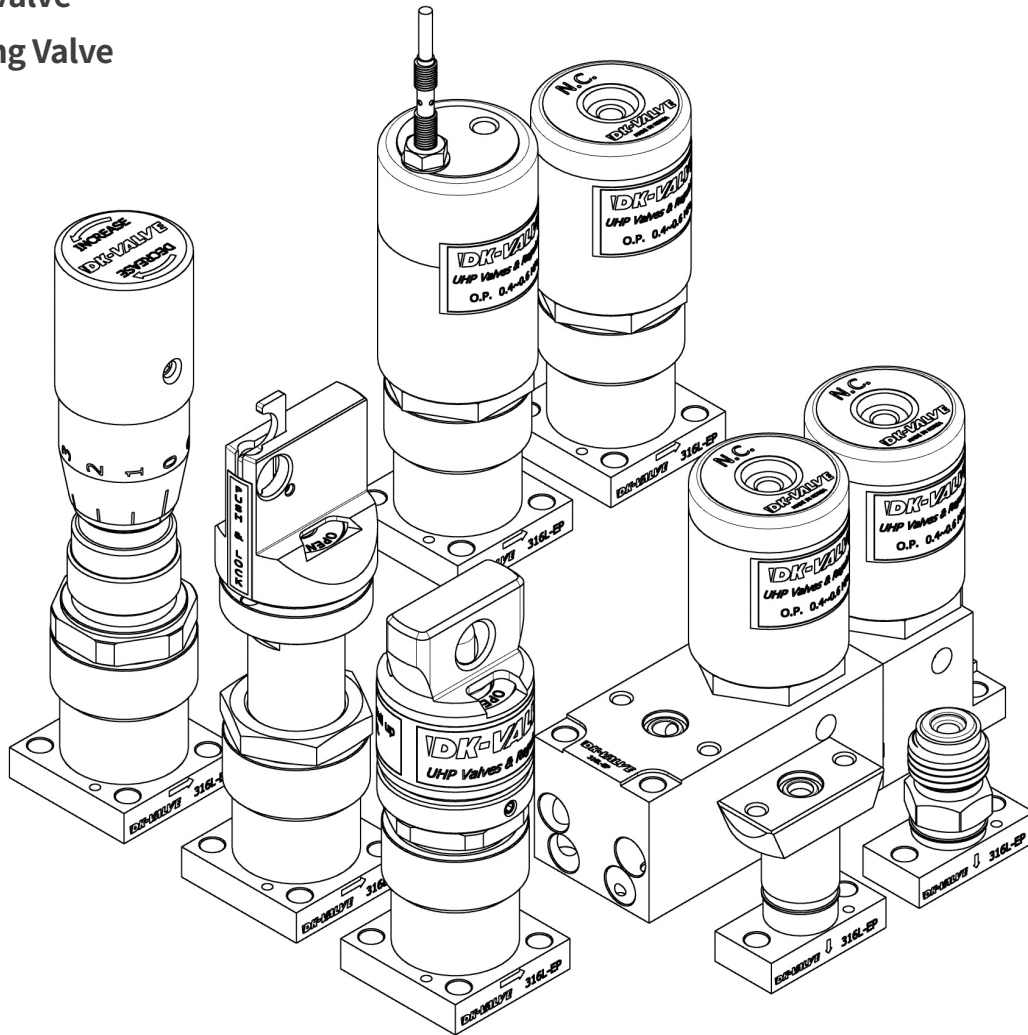
Pneumatic Valve

Manual Valve

Pneumatic Block Valve

Check Valve

Metering Valve



Wetted Materials

Descriptions	Materials
Valve Body	316L Double Melt
Valve Seat	PCTFE
Valve Diaphragm	Ni-Co Alloy
Spring	SUS316-WPA

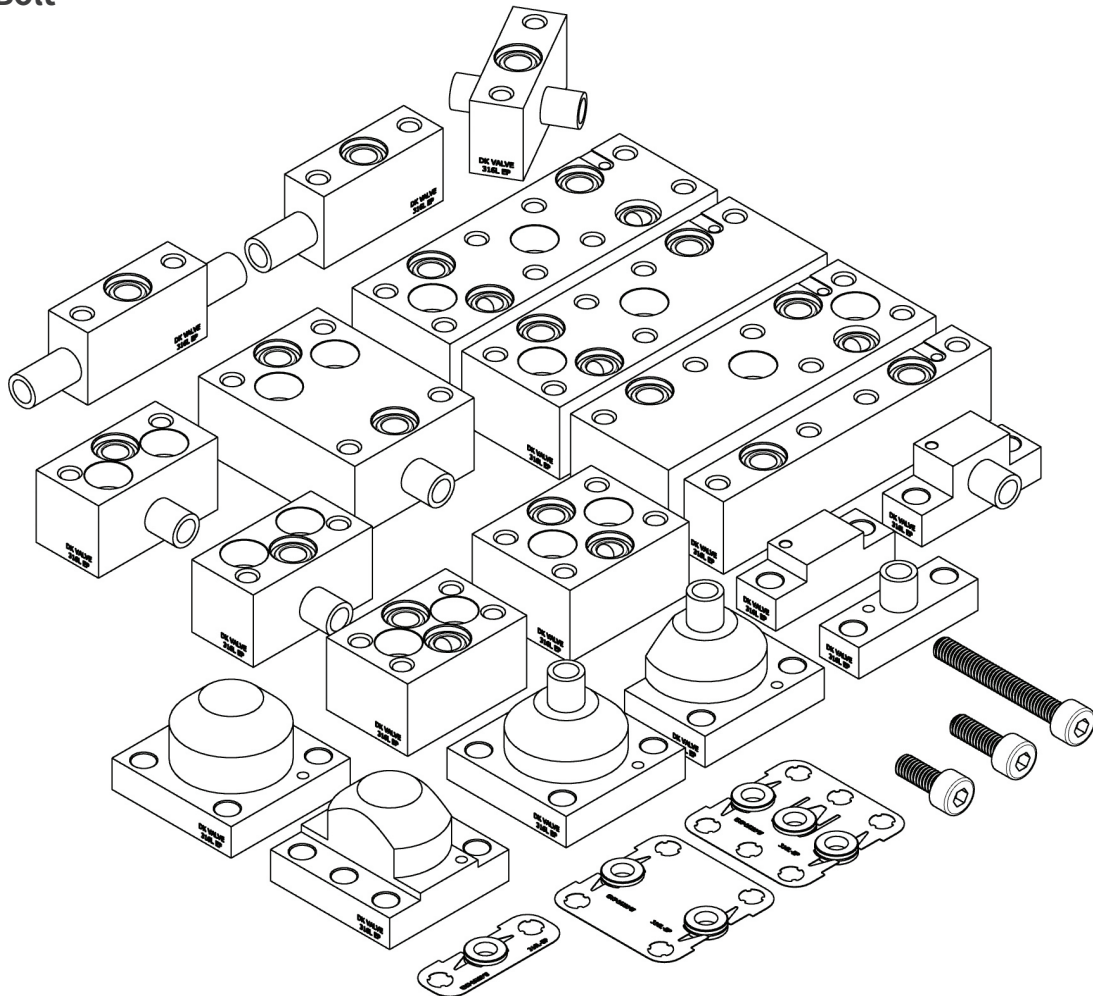
Blocks & Gaskets

Base Block

Joint Block

W-Seal Gasket

Joint Bolt



Wetted Materials

Descriptions	Materials
Blocks	316L Double Melt, VIM / VAR
W-Seal Gaskets	316L Double Melt

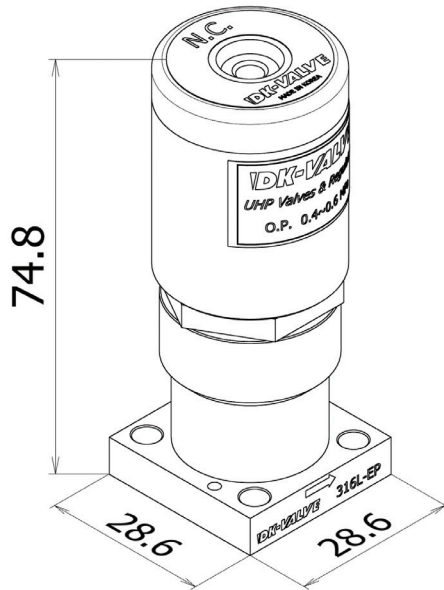
How to Ordering Informations

U-M1W
–
Product Type
–
Option

U-M1W : 1.125 inch W-Seal Type

Product Types	Descriptions
VB	Pneumatic Block Valve
VSP	Push Lock Type Manual Valve
VM	Screw Type Manual Valve
VMT	Metering Valve
VP	Pneumatic Valve (Normal Close)
VCP	Check Valve (Purge Line)
BBT	Base Block T
BBL	Base Block L
BBLX	Base Block LX
BB10	Base Block V10
BB14	Base Block V14
BB281BW	Base Block V28 - 1BW
BB1R11BW	Base Block 1R1 x 1BW
BB1R12BW	Base Block 1R1 x 2BW
BB1R2	Base Block 1R2
BB2R21A	Base Block 2R21A
BB2R21B	Base Block 2R21B
BB2R22	Base Block 2R22
JBC	Joint Block Cap
JBL	Joint Block L
JBV20	Joint Block V20
JBV203P	Joint Block V20 - 3P
JB11BW	Joint Block 1 x 1BW
JB21BW	Joint Block 2 x 1BW
JB11BWC	Joint Block 1 x 1BW / Cut
SG1P	Seal Gasket 1P
SG2P	Seal Gasket 2P
SG3P	Seal Gasket 3P
BT10	Bolt 10mm
BT12	Bolt 12mm
BT30	Bolt 30mm

Pneumatic Valve



U-M1W-VP

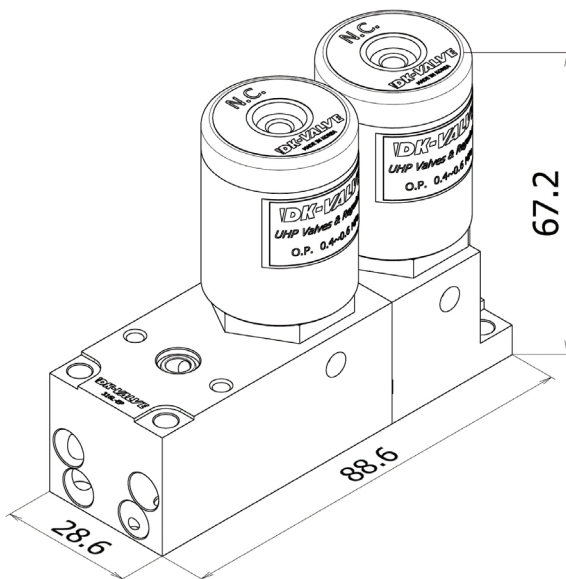
Specifications

Cv	0.3
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10 ~ 80°C
Actuator Pressure Rating	4 ~ 7 bar (60 ~ 100 psig)
Air Port	M5

Wetted Materials

Descriptions	Material
Valve Body	316L Double Melt
Valve Seat	PCTFE
Valve Diaphragm	Ni-Co Alloy

Pneumatic Block Valve



U-M1W-VB

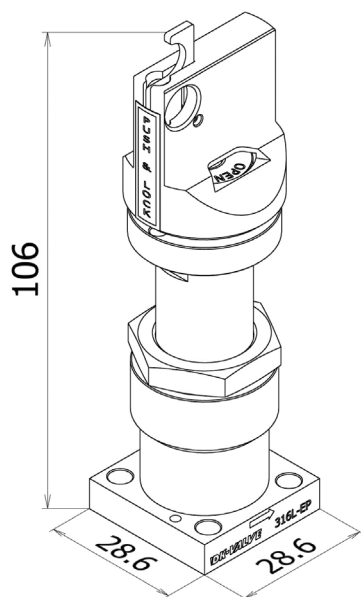
Specifications

Cv	0.3
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10 ~ 80°C
Actuator Pressure Rating	4 ~ 7 bar (60 ~ 100 psig)
Air Port	M5

Wetted Materials

Descriptions	Materials
Valve Body	316L Double Melt
Valve Seat	PCTFE
Valve Diaphragm	Ni-Co Alloy

I Manual Valve - Push Lock Type



U-M1W-VSP

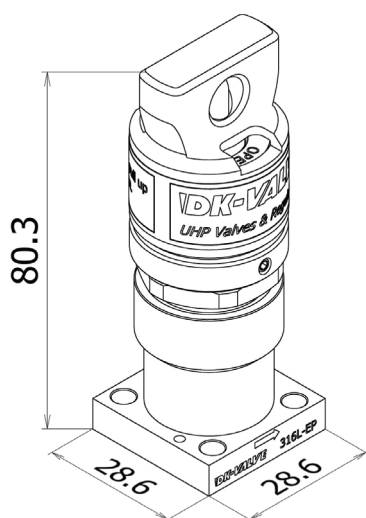
Specifications

Specifications:	0.3
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10 ~ 80°C

Wetted Materials

Descriptions	Materials
Valve Body	316L Double Melt
Valve Seat	PCTFE
Valve Diaphragm	Ni-Co Alloy

I Manual Valve - Screw Type



U-M1W-VM

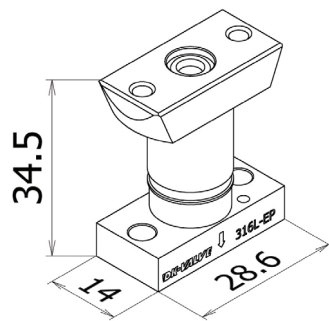
Specifications

Cv	0.3
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10 ~ 80°C

Wetted Materials

Descriptions	Materials
Valve Body	316L Double Melt
Valve Seat	PCTFE
Valve Diaphragm	Ni-Co Alloy

| Check Valve – Purge Line



U-M1W-VCP

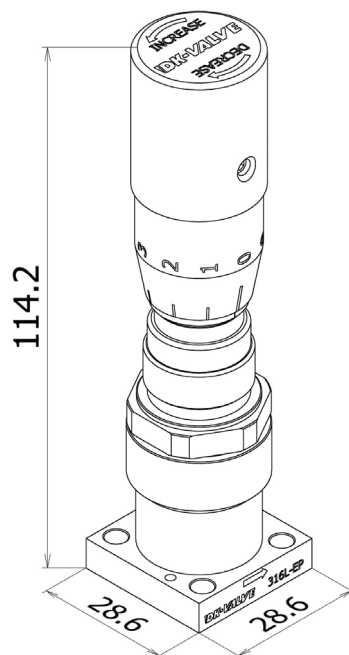
Specifications

Cv	0.4
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10 ~ 80°C

Wetted Material

Descriptions	Materials
Valve Body	316L Double Melt
Valve Seat	FKM
Spring	SUS316-WPA

| Metering Valve



U-M1W-VMT

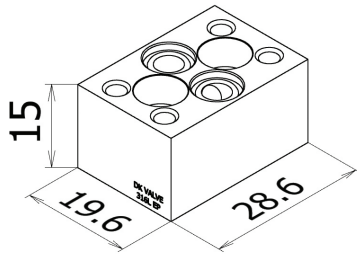
Specifications

Cv	0.1
Max. Working Pressure	10 bar (145 psig)
Max. Working Temperature	-10 ~ 80°C

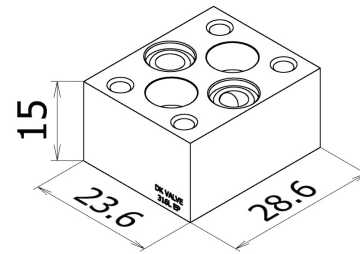
Wetted Materials

Descriptions	Materials
Valve Body	316L Double Melt
Valve Diaphragm	Ni-Co Alloy

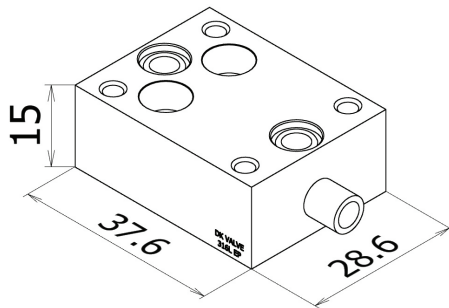
Base Blocks



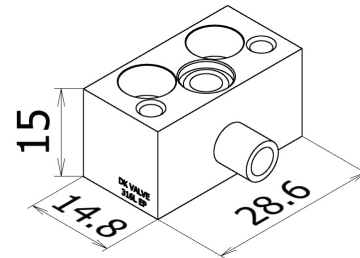
U-M1W-BB10



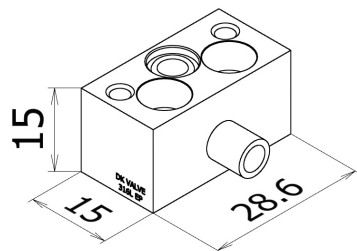
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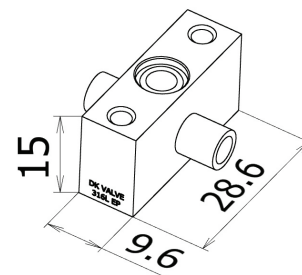
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U-M1W-BBL

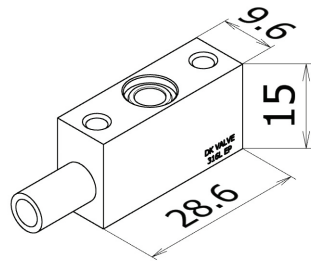


U-M1W-BBLX

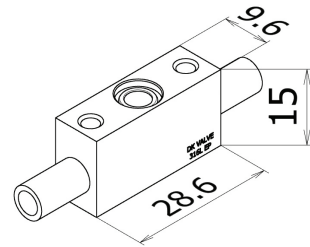


U-M1W-BBT

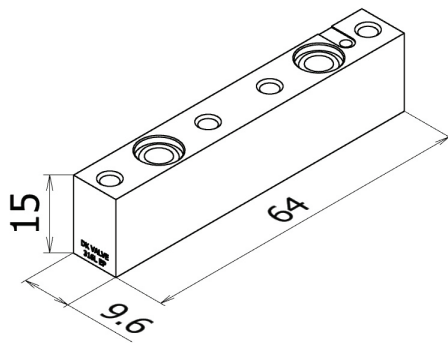
| Base Blocks



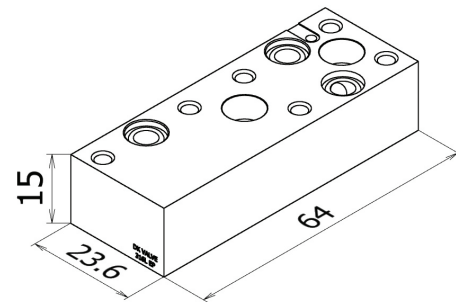
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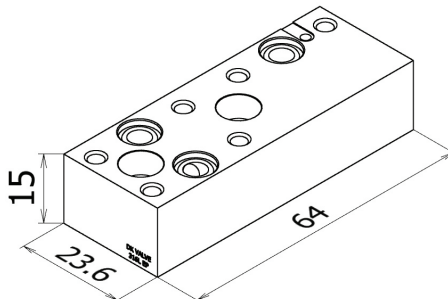
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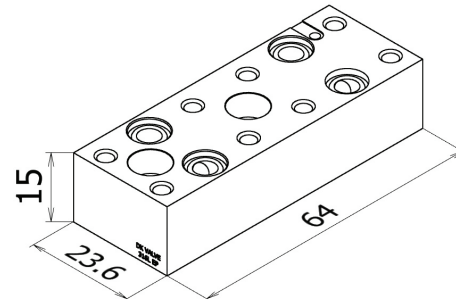
U-M1W-BB1R2



U-M1W-BB2R21A

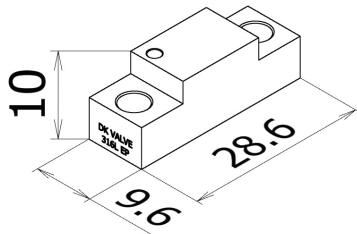


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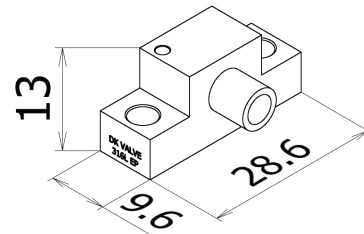


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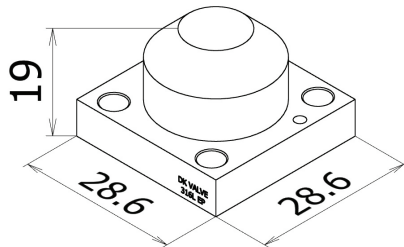
Joint Blocks



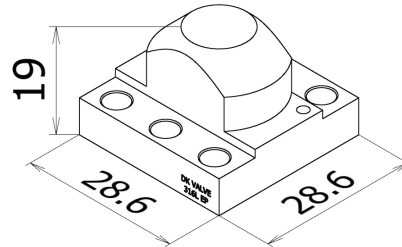
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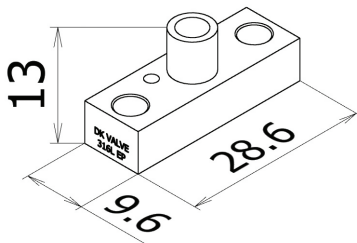
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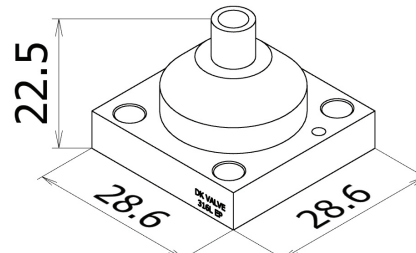
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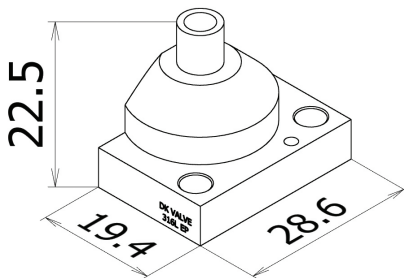
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U-M1W-JB11BW

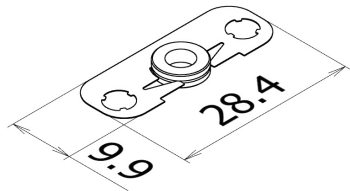


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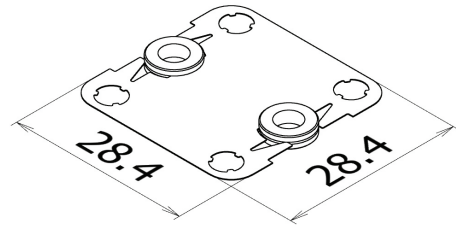


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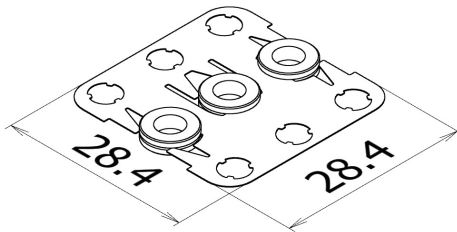
Gaskets



U-M1W-SG1P

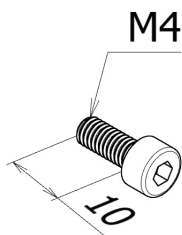


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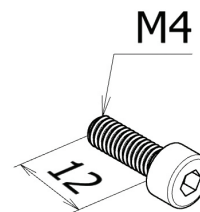


U-M1W-SG3P

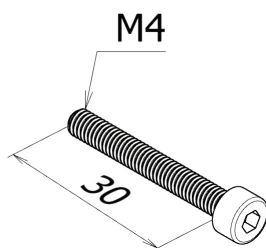
Bolts



U-M1W-BT10



U-M1W-BT12



U-M1W-BT30



Safe Component Selection

The selection of component for any applications or system design must be considered to ensure safe performance. Component function, material compatibility, component ratings, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. DK-Lok accepts no liability for any improper selection, installation, operation or maintenance.



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