

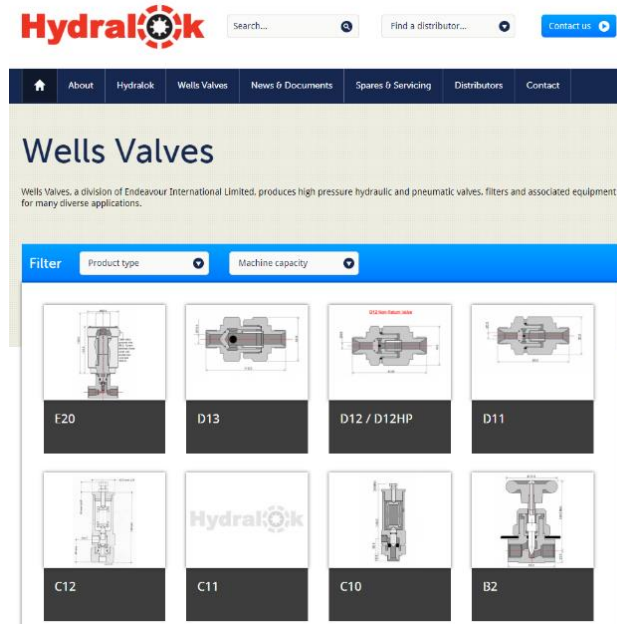
wells



September 2022

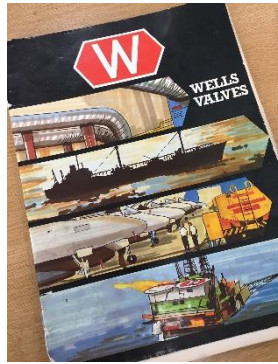
Company History

Wells Valves was created in the 1950's by Stephen Wells and initially produced valves for military equipment. Over the years the application of the valves expanded to cover industrial market segments, gas, oil and gas, chemical plants, power stations and commercial aircraft.



BiS Valves Ltd purchased the Wells Valves division from Hydralok and incorporated BiS Wells as a group company. BiS Valves are dynamic and have extensive design and manufacturing expertise. We continue to invest in the development of the BiS Wells product range, We offer a broad systems capability and continue to achieve recognition and growth in industrial gas and alternative fuels markets.

1950



1989

Wells Valves was sold to Hydralok, a subsidiary of Endeavour International. Product development continued, and increased sales growth. In latter years, the company focus shifted away from valves as the ownership of the parent company changed.

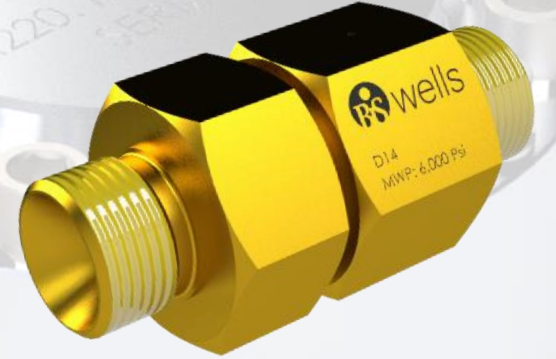
2018





Products

- **Manual Balanced Stop Valves**
 - DN15, 500 barg – ¼" to 2"
 - Non-rising stem, manifold interface
- **Actuated Balanced Stop Valves**
 - 2 & 3 port and manifold interface
 - DN15 up to 500 bar
- **Relief Valves**
 - PED Cat 4 - MWP 450 barg.
- **Burst Protection/Excess Flow Valves**
 - 500 barg MWP
 - Manual and Auto reset.



Products

- **Pressure Regulators** - Spring & Dome loaded – 3/8" to 3"
- Cv range – 0.09 to 30
- Pressure range - 69 to 1034 barg
- **Back Pressure Valves** - Spring and Dome Loaded
- Range - 1/4" to 1 1/2"
- Pressure range - 69 to 758 barg
- **Solenoid Valves:** - ATEX and IECEx certified.
- **Filters** - Inline and 'T' style filters - 500 barg - 5 to 37 µm
- **Non-Return Valves** - Range - 3/8" to 1 1/2" – 500 barg



Pressure let down panels

Hydrogen Control Solutions

Applications:

- Hydrogen refueling stations
- Hydrogen gas trailers
- Hydrogen gas filling Plants

Key Customers:

- Nanosun
- Calvera
- Kessels
- NPROXX
- Luxfer
- IGAS
- UMOE
- Maximator GmbH



Hydrogen Control Products

G10 Excess flow/Burst Protection valve
Valve 500 barg



Stainless Steel B10 & B12 Manual Stop valves



A210 Dome Regulator
500 barg



K Series Actuated Stop Valves
500 barg



H15 Series BPMV



A12 Stainless Steel Spring Loaded Pressure Regulator



ATEX and IECEx E20 solenoid valve



Hydrogen Control Products

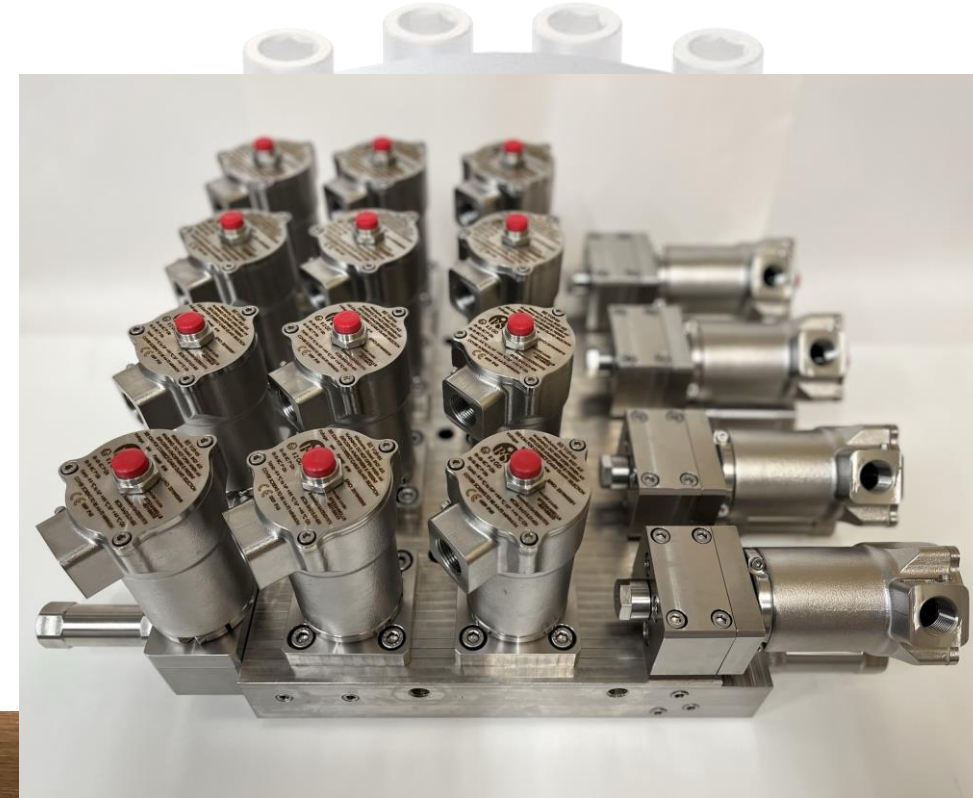
Custom-designed Manifold Solutions

500 barg Manifold solution incorporating
16 off – Solenoids & cartridge filters.



Benefits:

- Smaller envelope area
- Integrated logic components
- Reduced pipework
- Reduced number of connections.
- Reduced number of leak paths
- Ease of assembly
- Reduced assembly cost
- Ease of maintenance



500 barg Manifold with 2 off – ATEX
solenoids, cartridge check valves and
filters.

Hydrogen Control Products

B102H2 – DN15, 500 barg - Manual Balanced Stop Valve

- PED version available for static H2 filling systems.

TPED Qualification Status

- First batch of valves produced and tested (design frozen)
- NOBO appointed to carry out witness test approval
- Project plan to commence TPED approval November 2022.
- Commercially attractive solution, supplied complete with customer specific flange adaptors.

K39H2 – DN15, 500 barg – Actuated Balanced Stop Valve

- TPED approval will commence Q4 2022.
Approval planned early 2023.



Hydrogen Control Products

Applications:

Gas Trailers/Transport

- Primary line Isolation Valves - 500 barg B102H2 Manual balanced stop valve (TPED approval pending)
- Secondary line Isolation Valves - 500 barg K39H2 Actuated Stop valve (TPED approval pending)
- Secondary line isolation - 500 barg E39H2 ATEX approved solenoid valve
- Cylinder liner protection - 500 barg H15 back pressure maintaining valves
- Variable discharge pressure - 500 barg A210 Dome loaded pressure regulator
- 600 barg A10 Spring loaded regulator
- Storage protection - 450 barg C11 relief valves (PED cat 4 certified)
- Piping reduction - Bespoke manifold solutions
- Cylinder discharge protection - 500 barg G10H2 Excess flow/ Burst protection valve

Static Refueling Stations

- Primary line Isolation Valves - 500 barg B102H2 Manual balanced stop valve
- Line Isolation Valves - 500 barg K39H2 Actuated Stop valve
- Line isolation - 450 barg E39H2 ATEX approved solenoid valve
- Line pressure regulation - 600 barg A10 series spring loaded regulator.

E39H2 Series Solenoid Valve

Features:

- ATEX & IECx certified
- Manifold & Cartridge interface options
- 8-Watt power rating
- Range of voltage options
- 500 barg MWP
- Balanced design
- Bi-directional
- ATEX position proximity sensor option

DATASHEET

SOLENOID VALVES: E39

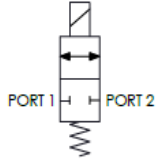
Model Code Structure - Standard Model Code in Red										
Valve Model	Solenoid Model	Conduit	Voltage	Reset	Pressure	Configuration	Port Type	Seal Material	Wetted Materials	
E39-	2 Port 2 Position	3D Ex db Solenoid	1 M20 x 1.5	A 12 Vac	A Automatic	45 450 bar	NC NORMALLY CLOSED	25P 1/4" BSP	N Nitrile -25°C to +105°C	SS/AL Stainless / Aluminium
E39H2-	2 Port 2 Position. Hydrogen Use	3M Ex mb Solenoid	2 1/2" NPT	B 24 Vac	G Override	OTHER PRESSURES AVAILABLE	NO NORMALLY OPEN	25N 1/4" NPT	V Viton -10°C to +120°C	SS/SS Stainless / Stainless
				C 48 Vac	M Manual Reset			SAE6 9/16" UNF	S Silicone -50°C to +120°C	SS/BR Stainless / Brass
				D 115 Vac				L Low Temperature Nitrile -50°C to +105°C		
				E 24 Vac				E EPDM -30°C to +120°C		
				F 48 Vac						
				G 115 Vac						
				H 230 Vac						

AMBIENT TEMPERATURE LIMITS			
Ex db IIC T4 Gb & T6 Gb and Ex tb IIIC T4 Db & T6 Db			
SOLENOID SEAL MATERIAL	MIN Tamb (°C)	MAX Tamb (°C) [T4 135°C]	MAX Tamb (°C) [T6 85°C]
SILICON	-50	85	40
Ex mb IIC T4 Gb and Ex mb IIIC T4 Db			
SOLENOID SEAL MATERIAL	MINIMUM Tamb (°C)	MAXIMUM Tamb (°C) [T4 135°C]	
SILICON	-40	60	

SPECIFICATION:

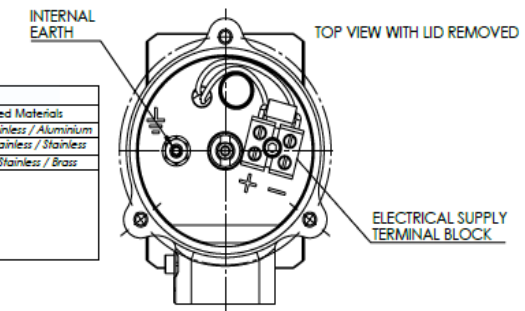
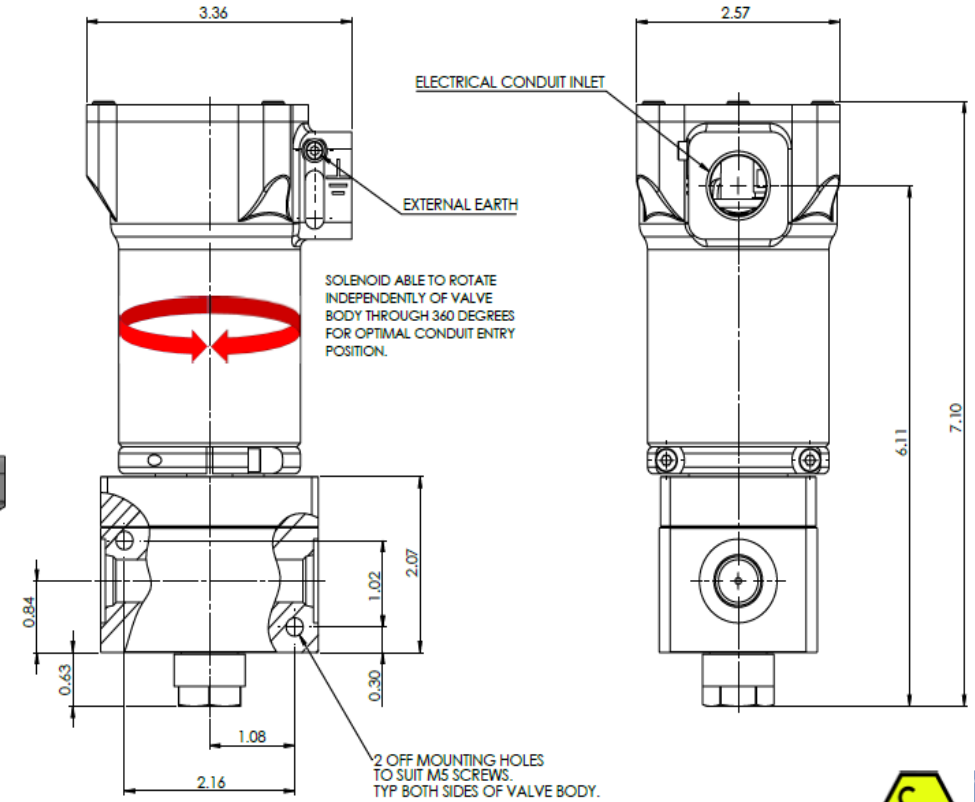
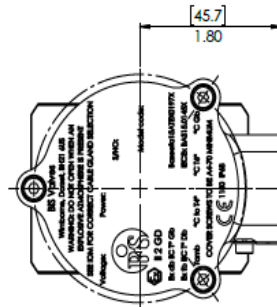
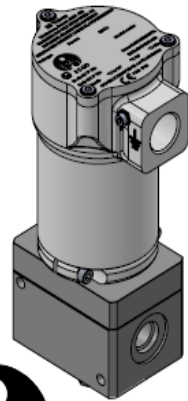
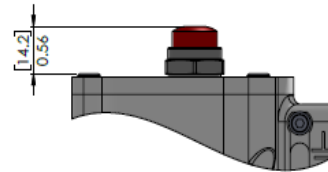
POWER RATING: 8 WATTS
 SEAT MATERIAL: PEEK. OTHER MATERIALS AVAILABLE
 Cv: 0.15
 WEIGHT: 3.5 Kg
 IP RATING: IP68
 SUITABLE FOR BOTH GASSES AND LIQUIDS
 SURGE SUPPRESSION DIODE FITTED AS STANDARD

VALVE SYMBOL



PRESSURE BALANCED DESIGN. PRESSURE CAN BE APPLIED TO EITHER PORT.
 NORMALLY CLOSED VERSION SHOWN.

DETAIL OF MANUAL RESET AND OVER RIDE PUSH BUTTON ARRANGEMENT.



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DESIGNER: J.PHELAN	SHEET 1 OF 1	3RD ANGLE PROJECTION	DRAWING SIZE: A2	DRAWING SCALE: 2:3	DRAWING NUMBER: DSO080
DATE: 06/01/2022	STEP: 1				

A210 & 211 Series Dome loaded Pressure Regulator

- MWP – 500 barg
- Cv- 1.9
- Various material options
- Hydrogen gas application specific.

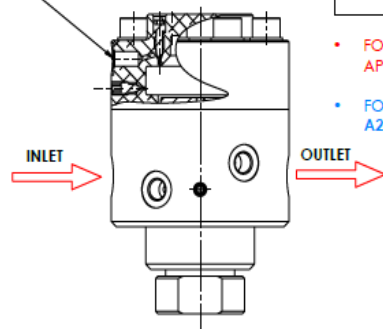
DATASHEET

PRESSURE REGULATOR: A210 AND A211

SPECIFICATION

- ORIFICE: 12.7mm
- MEDIUM: A210 - GAS ONLY
- MEDIUM: A211 - GAS AND LIQUID
- CAPACITY VALUE: 1.9
- DRY WEIGHT: 3.91 kg (8.63 lb) (ALUMINIUM ALLOY)
- OUTLET RISE / UNIT INLET FALL: 0.02

A211 VALVES ONLY. 1/8" BSPP EXTERNAL DOME LOADING PORT LOCATION.



- FOR OXYGEN AND BREATHING AIR APPLICATIONS USE CODE: A210OX / A211OX
- FOR HYDROGEN APPLICATIONS USE CODE: A210H2 / A211H2

A210 VALVES ONLY. DOME LOADING NEEDLE VALVES, DUPLICATED ON OPPOSING SIDE TO ALLOW LOADING OF THE DOME FROM EITHER SIDE OF THE PRESSURE REGULATOR.

MODEL CODE						
A210	1	1	AA	50P	N	NY 0

MODEL TYPE	
A210	DOME LOADED INTERNALLY
A211	DOME LOADED EXTERNALLY

MAXIMUM INLET PRESSURE	
1	6,000 Psi (414 Bar)

OUTLET PRESSURE RANGE	
1	44 ~ 3,500 Psi (3 ~ 240 Bar)

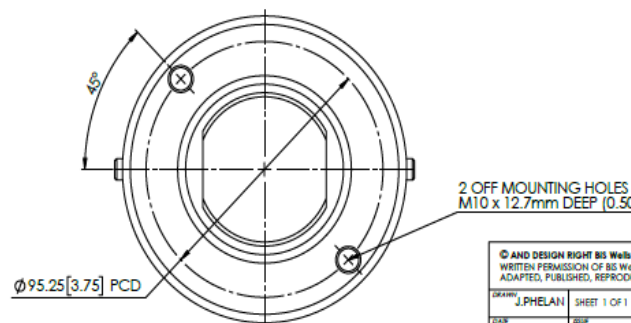
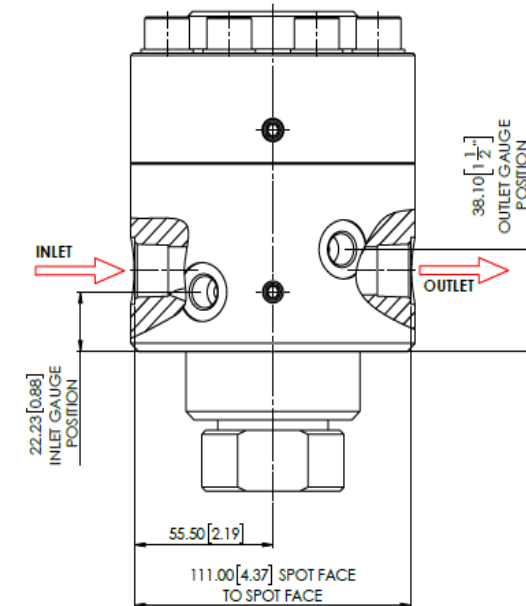
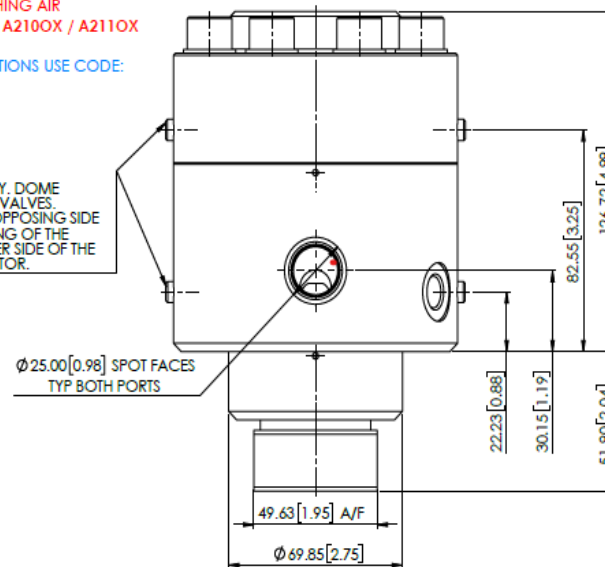
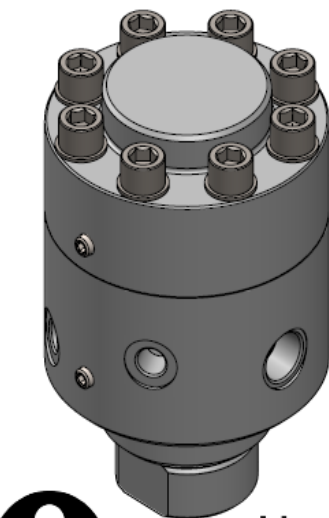
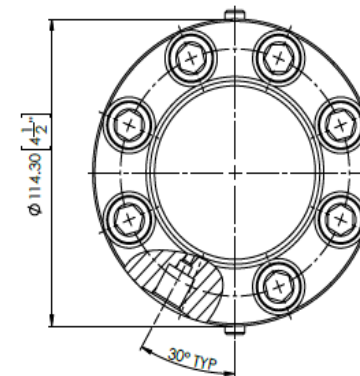
MATERIAL	
AA	ALUMINIUM ALLOY
SS	STAINLESS STEEL
AB	ALUMINIUM BRONZE
BR	BRASS

GAUGE PORT	
0	NO PORT
GI	1/4" BSPP INLET
GO	1/4" BSPP OUTLET
GB	1/4" BSPP INLET & OUTLET

SEAT MATERIAL	
NY	NYLON

SEALS	
N	NITRILE
V	VITON

PORTING	
50P	1/2" BSPP
50N	1/2" NPT



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DESIGNED BY J.PHELAN	SHEET 1 OF 1	3RD ANGLE PROJECTION	DRAWING SIZE A2	DRAWING SCALE 1:2	DRAWING NUMBER DS0072
DATE 28/05/21	REV 1				



C10 & C11 Relief Valve (PED Cat 4)

- MWP – 450 barg
- PED Cat 4 certified
- Range of material options
- Oxygen and hydrogen options



DATASHEET

RELIEF VALVES: C10 & C11 SERIES



MODEL CODE						
C11	-	1	1	SS	SOP/37P	N NY

MODEL TYPE	
C10 -	RELIEF VALVE - 9.53mm ORIFICE
C11 -	RELIEF VALVE - 7.14mm ORIFICE

MAXIMUM INLET PRESSURE	
1	C11: 6,500 Psi (450 Bar)
2	C10: 3,500 Psi (241.4 Bar)

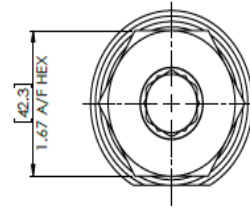
SET PRESSURE RANGE	
1	C11: 1,000 ~ 6,500 Psi (69.0 ~ 448.3 Bar)
2	C11: 500 ~ 1,500 Psi (34.5 ~ 103.4 Bar)
3	C10: 500 ~ 3,500 Psi (34.5 ~ 241.4 Bar)
4	C10: 300 ~ 1,000 Psi (20.7 ~ 69.0 Bar)
5	C10: 100 ~ 400 Psi (6.9 ~ 27.6 Bar)

MATERIAL	
A	ALUMINIUM
AB	ALUMINIUM BRONZE
BR	BRASS
SS	STAINLESS STEEL

SEAT MATERIAL	
NY	NYLON
PT	PTFE
PE	PEEK

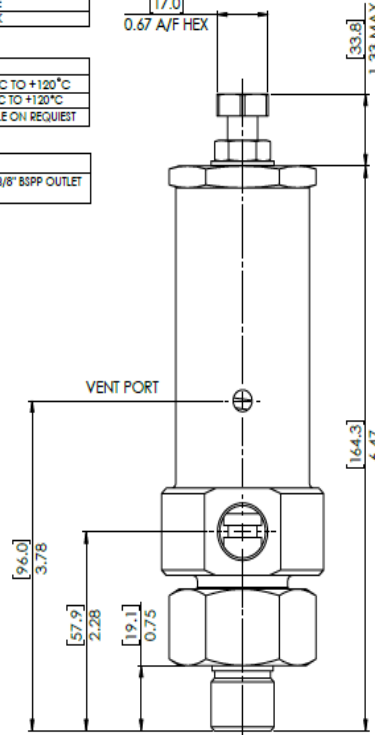
SEAL MATERIAL	
N	NITRILE -25°C TO +120°C
V	VITON -10°C TO +120°C
OTHER SEAL MATERIALS AVAILABLE ON REQUEST	

PORTS	
SOP/37P	1/2" BSPP INLET MALE & 3/8" BSPP OUTLET FEMALE

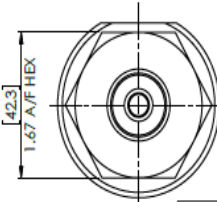


17.0
0.67 A/F HEX

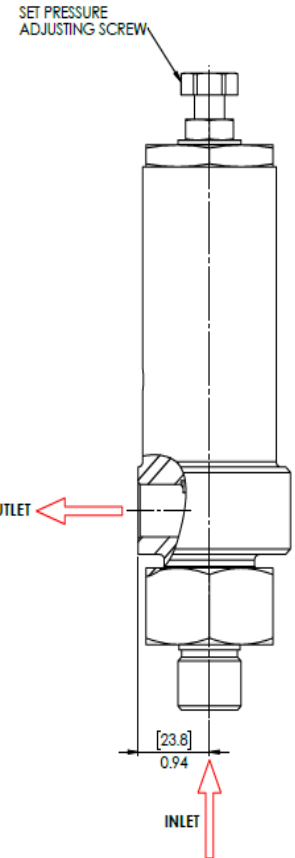
1.33 MAX



VENT PORT

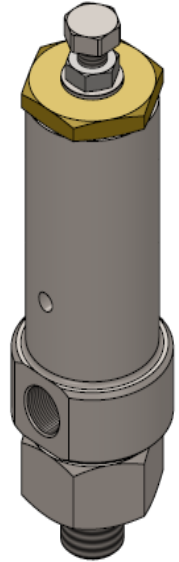
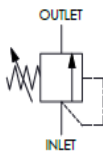


VALVE INFORMATION	
MODEL	C10 & C11
APPROVALS	CATEGORY IV OF PRESSURE EQUIPMENT DIRECTIVE 2014/68/EU
WEIGHT	1.5KG / (3.3 LB) (STAINLESS STEEL)
MEDIUM	GAS AND LIQUID
LEAKTIGHT	WHEN 90% OF SET PRESSURE IS APPLIED
ORIFICE SIZE	C10: 9.53mm, C11: 7.14mm
REPEATABILITY	WITHIN +/-5% OF SET PRESSURE
MAX OUTLET PRESSURE	69 BAR (1000PSI) NOTE: OUTLET PORT PRESSURE AFFECTS SET PRESSURE



- FOR OXYGEN AND BREATHING AIR APPLICATIONS USE CODE: **C100X / C110X**
- FOR HYDROGEN APPLICATIONS USE CODE: **C10H2 / C11H2**

CIRCUIT SYMBOL



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DESIGNED BY	J.PHELAN	SHEET	1 OF 2	DRAWING NO	A2	DRAWING SCALE	1:2	DRAWING NUMBER	DS0015
DATE	01/09/20	SIZE	1	PROJECTION	3RD ANGLE				

G10H2 Excess Flow/Burst protection Valve

- MWP – 500 barg
- Range of material options

Applications:

- Hydrogen fill & decant systems
- Downstream pipe/line failure protection



DATASHEET

EXCESS FLOW VALVE (SLAM SHUT): G10H2 - HYDROGEN SPECIFIC

MODEL CODE	
G10H2 -	1 1 SS 37P N

MODEL TYPE	
G10H2 -	G10 [EXCESS FLOW VALVE]

MAXIMUM INLET PRESSURE	
1	500 Bar [7,250 Psi]

RESET	
1	AUTOMATIC RESET
2	MANUAL RESET

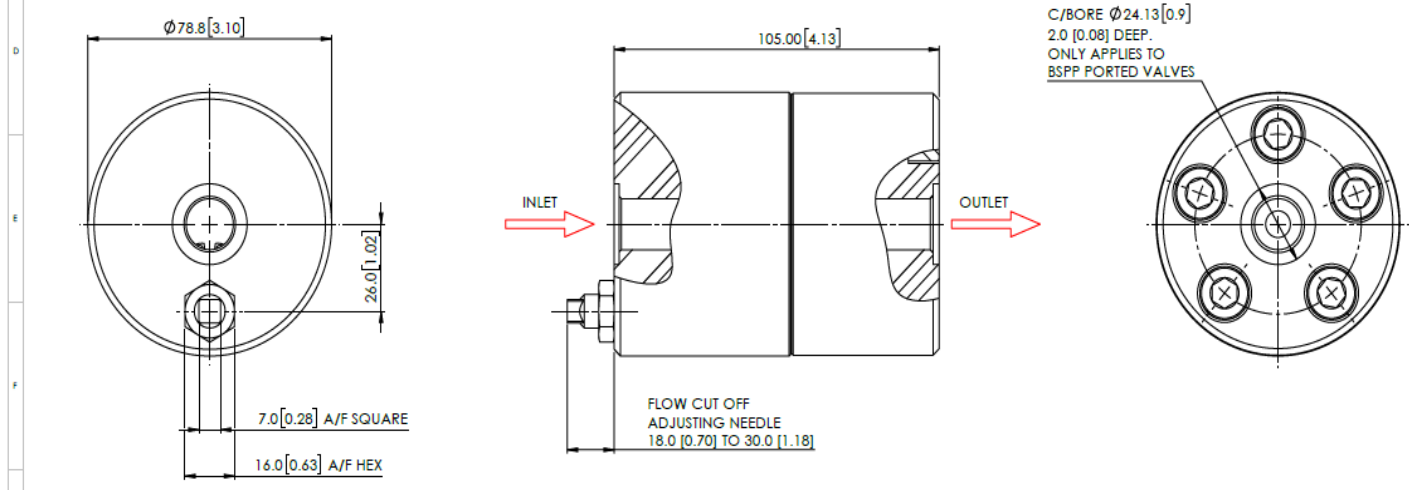
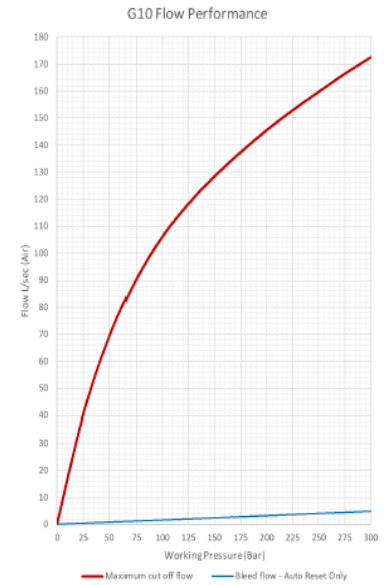
SEALS	
N	NITRILE
V	FKM
H	HNBR
E	EPDM
OTHER MATERIALS AVAILABLE ON REQUEST	

PORTING	
37P	3/8" BSPP
37H	3/8" NPT
OTHER OPTIONS AVAILABLE ON REQUEST	

MATERIAL	
SS	STAINLESS STEEL

SPECIFICATION

- MAXIMUM WORKING PRESSURE: 500 Bar (7,250 Psi)
- FLOW AREA: 44.0mm²
- MANUAL AND AUTOMATIC RESET OPTIONS
- SHUT OFF AT APPROXIMATELY 1 BAR DIFFERENTIAL PRESSURE
- DRY WEIGHT: 1.1 kg (2.4 lb) (ALUMINIUM ALLOY)



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DESIGN: J.PHELAN	SHEET 1 OF 1	3RD ANGLE PROJECTION	DRAWING SIZE: A2	DRAWING SCALE: 1:2	DRAWING NUMBER: DS0075		
DATE: 22/07/21	REV: 1						

H15 Series BPMV

- MWP – 500 barg
- Range of material options

Applications:

- Compressors
- Air Dryers
- Filtration systems
- Gas trailer offload systems
- Cylinder discharge pressure protection.



DATASHEET BACK PRESSURE MAINTAINING VALVES (BPMV): H15 SERIES

- WEIGHT: H15 - 1.5Kg.
H15SS - 1.7Kg
- ORIFICE DIAMETER: 5.8mm

MODEL CODE						
H15	1	1	SS	37P	N	NY

MODEL TYPE	
H15	STANDARD BODY, 1/4" & 3/8" PORTS
H15SS	WIDE BODY, 1/2" PORTS

INLET PRESSURE	
1	4,500 Psi (310 Bar)
2	6,500 Psi (450 Bar)
3	7,250 Psi (500 Bar)

SET PRESSURE RANGE	
1	2,000 ~ 6,500 Psi (140 ~ 450 Bar)
2	2,000 ~ 3,045 Psi (140 ~ 210 Bar)
3	1,160 ~ 2,175 Psi (80 ~ 150 Bar)
4	140 ~ 1,160 Psi (10 ~ 80 Bar)
5	2,000 ~ 7,250 Psi (140 ~ 500 Bar)

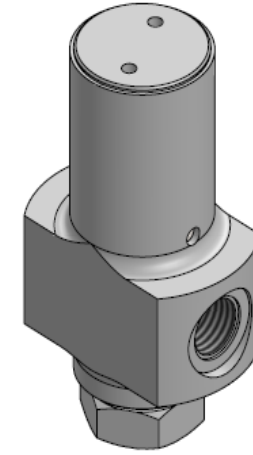
MATERIAL	
A	ALUMINIUM
AB	ALUMINIUM BRONZE
BR	BRASS
SS	STAINLESS STEEL

SEAT MATERIAL	
NY	POLYMER
PT	PTFE

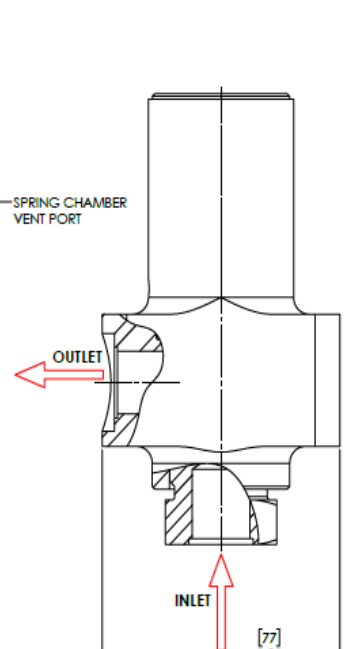
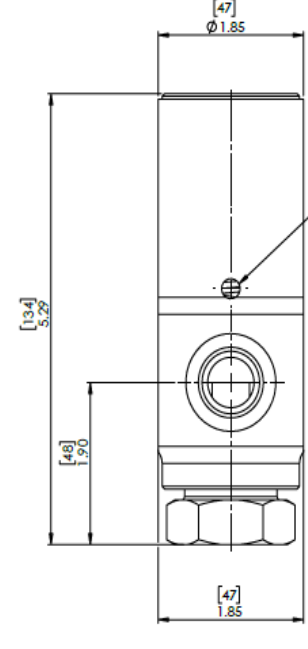
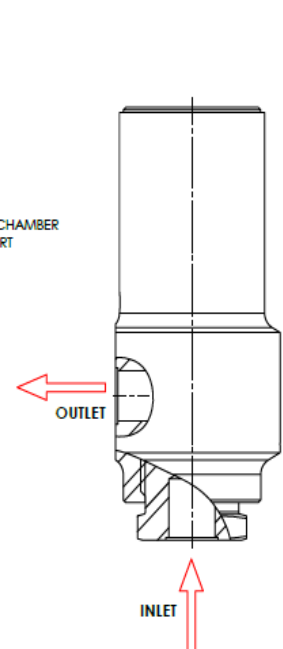
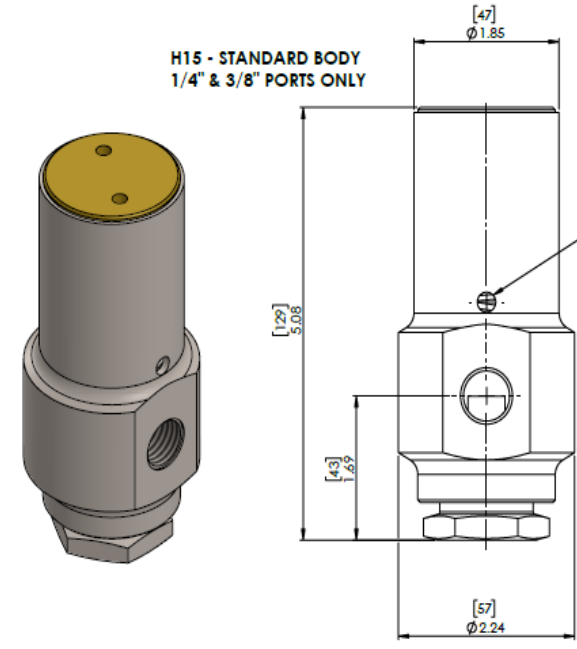
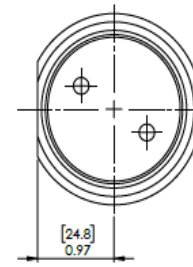
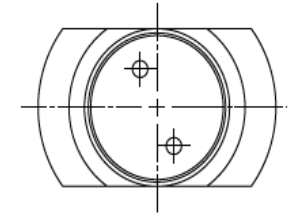
SEAL MATERIAL	
N	NITRILE
V	VITON

PORTS	
2SP	1/4 BSPP
2SN	1/4 NPT
37P	3/8 BSPP
37N	3/8 NPT
5CP	1/2 BSPP
5CN	1/2 NPT

1/2" PORTED VALVES ARE ONLY OFFERED IN THE H15SS WIDE BODY VARIANT.



H15SS - WIDE BODY
1/2" PORTS ONLY



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DRAWN BY J.PHELAN	SHEET 1 OF 1	3RD ANGLE PROJECTION	DRAWING DEF A2	DRAWING SCALE 1:1	DRAWING NUMBER DS0003		
DATE 29/04/19	SIZE 3						

