VAL CONTROLS

Intelligent Valve Control

IHP24

Intelligent Hydraulic Positioner

Val Controls A/S

Intelligent valve control based on the latest know-how concerning digital technology for advanced valve control, monitoring and testing suited for pneumatic and hydraulic actuators. Our key task is to assist valve and actuator manufactures in finding the optimal solution for control, monitoring or testing of their products. We discover the best solutions for hazardous areas and harsh environments combined with cost reduction potentials.

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Presentation

Val Controls develops and manufacture Intelligent Electro Hydraulic Positioners. They are used for valve positioning and have an integrated microprocessor with very flexible software, so the positioner fits almost any hydraulic, pneumatic, rotary, linear, double-acting, spring return and stepping actuator on the market.

The IHP24 range offers several advantages.

- **Smart positioner for hydraulic actuators**
- **Automatic intelligent calibration**
- **Intelligent valve positioning**
- **User-friendly menu**
- **Flexible and configurable**
- **Ultra low power design**
- **Easy error handling**
- **Intrinsically safe version**
- **Compact flame proof (Ex d) version in SS316**
- **ATEX and IECEx approved**

The IHP24 range offers the best in performance and user-friendliness, combining these in a very compact enclosure.
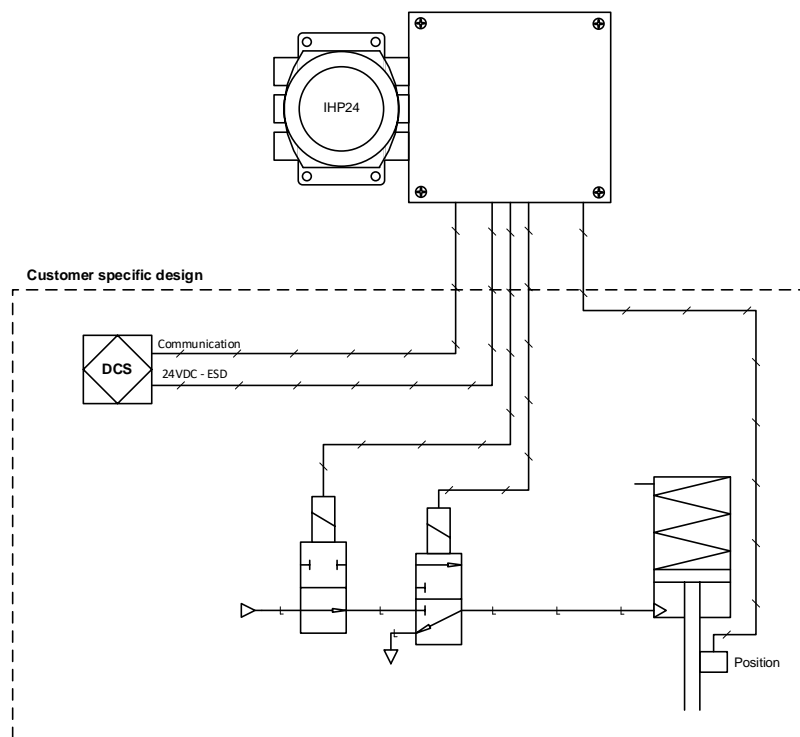
IHP24-B and IHP24-BF
Basic and Basic Flameproof

The Basic edition of the IHP24 range is an affordable positioner. This unit is very easy to install and adjust. It offers a very simple but efficient way to achieve positioning of a valve with a hydraulic control system.

The positioner has an advanced calibration process which in combination with the regulator provides fast and reliable positioning of actuators. The user-friendly interface makes it easy to use and configure.

IHP24-A and IHP24-AF
Advanced and Advanced flameproof

The Advanced model is the most flexible positioner in the range. The standard configuration is designed to be able to handle all tasks a positioner could be used for. Furthermore it is equipped with an extension interface which makes it possible to add extra hardware functionality on customer request.

The IHP24-A offers a large range of connection possibilities. It offers inputs for several 4-20mA sensors and digital signals which make it possible to configure the positioner to control or monitor other applications connected to the valve.

Communication

IHP24 can be used with the following communication types:

- **HART**
- **Foundation Fieldbus**

User interface

Model BF, AF and A have the following user interface features:

- **USB connection**
- **Graphical display**
- **4 button keyboard**
- **Status indicators:**
  - **Open**
  - **Closed**
  - **Moving**
  - **ESD**
  - **Local**
  - **Pump**
  - **MT locked (only BF and AF)**

MTControl

When IHP24-AF and BF are installed in hazardous area, opening of the enclosure is not allowed. Therefore it is not possible to operate the unit using the keyboard. By adding MTControl, it is now possible to operate the keyboard through the enclosure glass window using a magnetic pen. MTControl locks automatically when not used, to prohibit unattended use. MTControl can be configured so it only can be activated by pressing a 4 digit code.
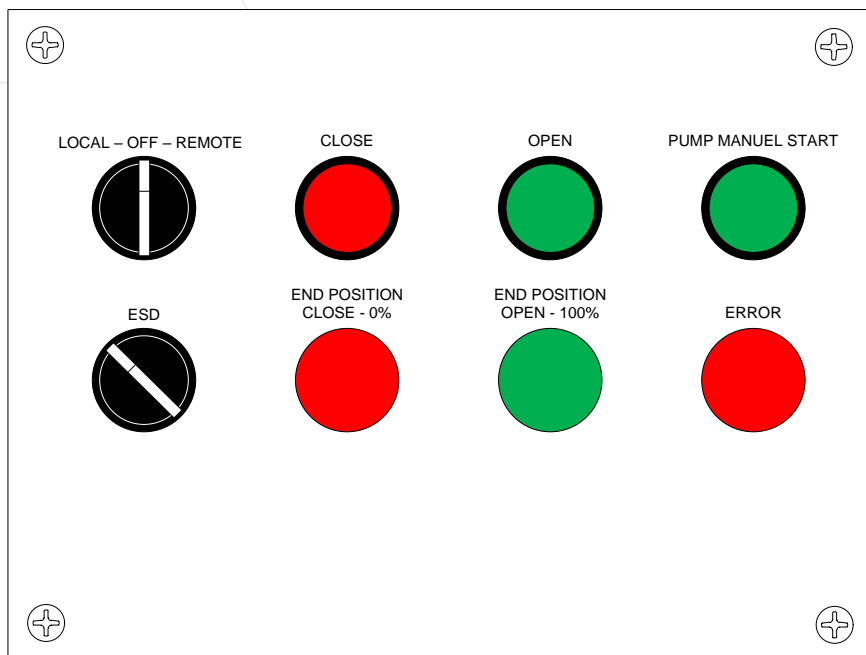
Control stations
Integrated or stand-alone

All control stations are installed directly on the terminal box or as stand-alone. The control station functions are standard functions in all models.

- **Remote/local-open/close operation**
- **Local position indicator: Open/close**
- **Local reset: Ready to reset and reset**
- **ESD input**
- **Error output**

Specifications

IHP24-BF

Dimensions lxwxh: 137x155x140mm

Weight: 4kg

Ex approval: ATEX/IECEx - II 2 GD
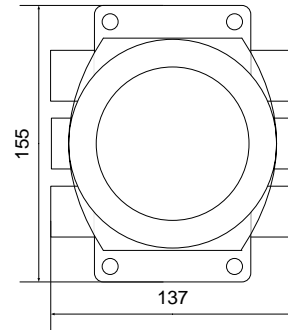
Ex d IIC T4-T6

IHP24-AF/BF standard

Dimensions lxwxh: 337x200x160mm

Weight: 7kg

Ex approval: ATEX/IECEx - II 2 GD

Ex d IIC T4-T6 and Ex e IIC T4-T6
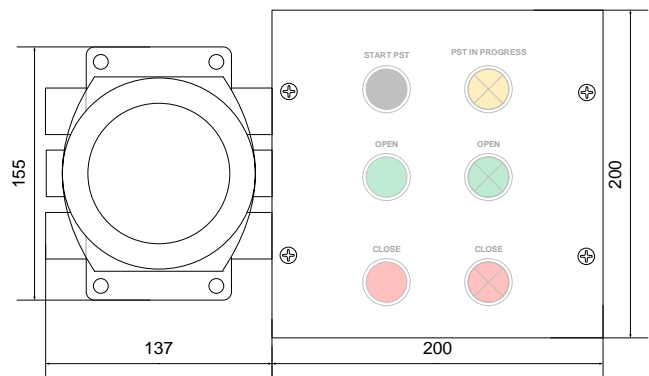
IHP24-AF/BF custom

Dimensions lxwxh: custom

Weight: custom

Ex approval: custom

IHP24 Intelligent Hydraulic Positioner

IHP24-A and IHP24-B

Dimensions lxwxh: 157x116x58mm

Dimensions lxwxh: 70x116x58mm

Weight: 0,5kg

Ex approval: None

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IHP24 Intelligent Hydraulic Positioner

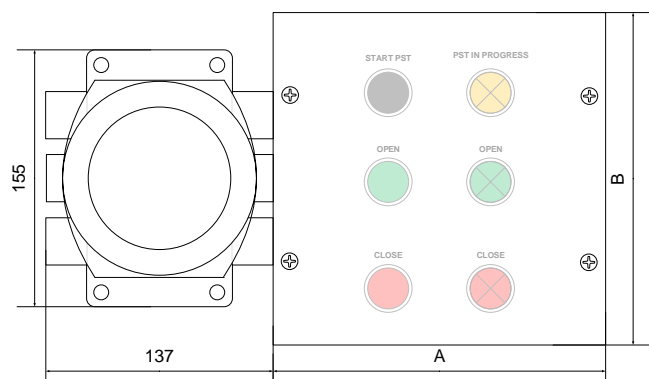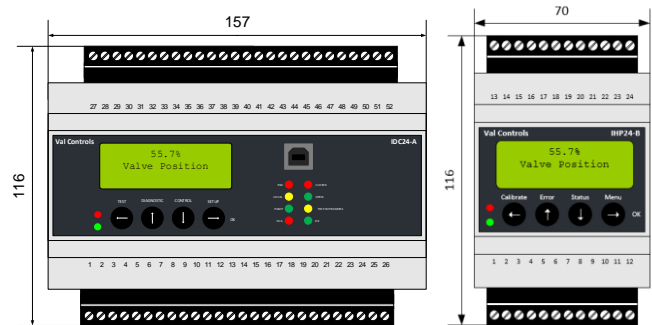| Model	BF Standard	BF Custom	AF Standard	AF Custom	B	A
Valve control – standard functions						
Hydraulic or pneumatic - Spring Return or Double Acting actuator Automatic intelligent or manual calibration Intelligent valve positioning Flow curves – Linear, Equal percentage 50:1, custom Valve action – Direct/reverse End settings Manual linearization Stepping function Error log Manual valve control	●	●	●	●	●	●
Standard functions						
User friendly menu Manual control of valves and actuator Open/Close indicator Remote/local/off selector ESD input Error output	●	●	●	●	●	●
Advanced functions						
Advanced regulation 4-20mA proportional valve			○	○		○
Advanced regulation of stepping actuator	●	●	●	●	●	●
Pump unit controller	●	●	●	●	●	●
Local user interface						
Display with menu	●	●	●	●	●	●
Indication LEDs	●	●	●	●		●
USB connection	●	●	●	●		●
MTControl	●	●	●	●		
Communication						
AIO: 4-20mA control and transmitter loop	○	○	○	○	○	○
HART v.7: 4-20mA control and transmitter loop with HART	○	○	○	○	○	○
Other communication protocols on request	○	○	○	○	○	○
Local control panel functions						
Remote/local-open/close operation Local position indicator: Open/close Local reset: Ready to reset and reset ESD input Error output	●	●	●	●	●	●
In and outputs						
AI: 4-20mA control loop	1	1	1	1	1	1
AO: 4-20mA transmitter loop	1	1	1	1	1	1
Power supply 24VDC – device power consumption <2W	1	1	1	1	1	1
DO: Digital output	3	4	3	6	4	6
DI: Digital input	1	0(1)	4	4(13)	0(1)	4(13)
AO: 4-20mA output			2	(2)		(2)
AI: 4-20mA sensors	1	1(2)	1	5	1	5
3-wire potentiometer		1		1	1	1
Design						
Temperature range	-30°-+60°	-50°-+80°	-30°-+60°	-50°-+80°	-30°-+80°	-30°-+80°
Ingress protection	IP66	IP65-68	IP66	IP65-68	IP20	IP20
ATEX and IECEx	Ex d/e	Ex d/e	Ex d/e	Ex d/e		
Enclosure material	SS316L	SS316L	SS316L	SS316L	Plastic	Plastic
Glands	6/8 x M20	Custom	11 x M20	Custom		
Configuration software						
Configurable by ValConnect software using USB	●	●	●	●	○*	●

Model selector – IHP24-BF

Product name		Type	Terminal box	Control station		Communication 1	Communication 2	Expansion card		Software features
IHP24	-	BF	A1	A2	-	B1	B2	C1	-	D

BF - standard	
A1	Terminal box
-	None
E	Standard terminal box with spare term: 4 grey + 2 PE
I	Standard terminal box with spare term: 4 grey + 2 PE, 4 blue + 2 PE
A2	Control station
-	None
B1	Communication 1
00	None
10	HART – Control loop
B2	Communication 2
00	None
C1	Expansion card
00	None
D	Software features
-	None

Model example: IHP24-BF-100000

BF - custom	
A1	Terminal box
-	Customized terminal box
A2	Control station
-	Customized Control station
B1	Communication 1
00	None
10	HART – Control loop
11	HART – Transmitter loop
30	Foundation Fieldbus H1
B2	Communication 2
00	None
C1	Expansion card
00	None
05	1 x Motor relay direct/reverse
D	Software features
-	None
E	Custom identification
XX	To identify custom made units

Model example: IHP24-BF-100000-A1

VAL CONTROLS
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Model selector – IHP24-AF

Product name		Type	Terminal box	Control station		Communication 1	Communication 2	Expansion card		Software features
IHP24	-	AF	A1	A2	-	B1	B2	C1	-	D

AF - standard	
A1	Terminal box
-	Standard terminal box with spare term: 4 grey + 2 PE
A2	Control station
-	None
B1	Communication 1
00	None
10	HART – Control loop
B2	Communication 2
00	None
C1	Expansion card
00	None
01	2 x AO (4-20mA - active)
D	Software features
-	None
C	Advanced regulation using 4-20mA proportional valve

Model example: IHP24-AF-100000-C

AF - custom	
A1	Terminal box
-	Customized terminal box
A2	Control station
-	Customized control station
B1	Communication 1
00	None
10	HART – Control loop
11	HART – Transmitter loop
30	Foundation Fieldbus H1
B2	Communication 2
00	None
C1	Expansion card
00	None
01	2 x AO (4-20mA - active) and 2 x digital input
02	4 x DI
03	2 x AO (4-20mA - passive) and 2 x digital input
05	1 x Motor relay direct/reverse
D	Software features
-	None
C	Advanced regulation using 4-20mA proportional valve – Expansion card 01
E	Custom identification
XX	To identify custom made units

Model example: IHP24-AF-100000-C-A1

VAL CONTROLS
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Model selector – IHP24-B

Product name		Type		Communication 1	Communication 2	Expansion card 1		Software features
IHP24	-	B	-	B1	B2	C1	-	D

B1	Communication 1
00	None
10	HART – Control loop
11	HART – Transmitter loop
B2	Communication 2
00	None
C1	Expansion card
00	None
D	Software features
-	None
E	Custom identification
XX	To identify custom made units

Model example: IHP24-B-100000-R1

Model selector – IHP24-A

Product name		Type		Communication 1	Communication 2	Expansion card 1		Software features
IHP24	-	A	-	B1	B2	C1	-	D

B1	Communication 1
00	None
10	HART – Control loop
11	HART – Transmitter loop
30	Foundation Fieldbus H1
B2	Communication 2
00	None
C1	Expansion card
00	None
01	2 x AO (4-20mA - active) and 2 x digital input
02	4 x DI
D	Software features
-	None
C	Advanced regulation using 4-20mA proportional valve – Expansion card 01
E	Custom identification
XX	To identify custom made units

Model example: IHP24-A-210001-C-A1

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