cowan dynamics

Actuation Solutions and Systems for the
World's Most Challenging Environments

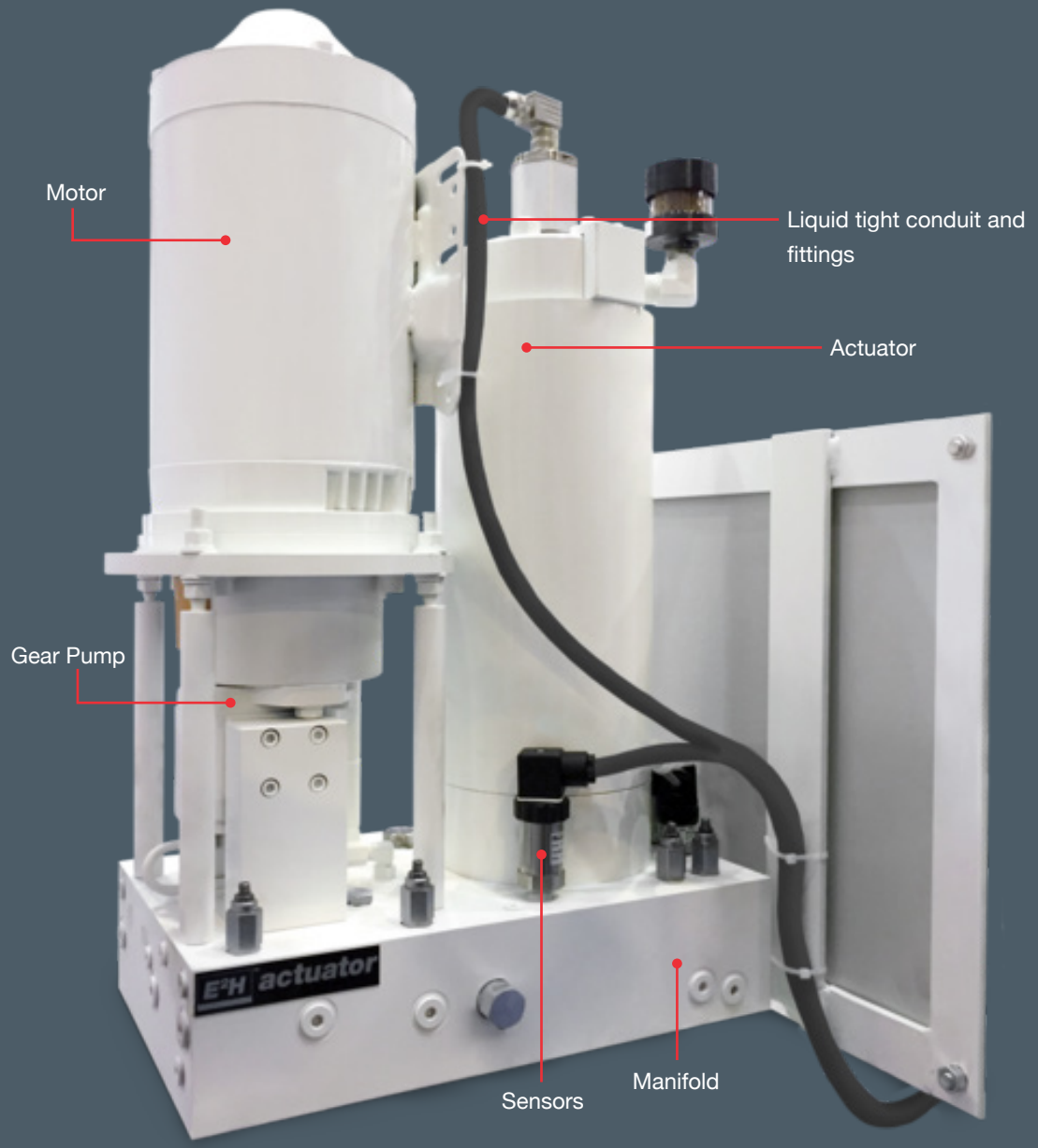
E²H® actuator

Electro-Hydraulic Linear Valve Actuator

Compact Self-Contained Electro-Hydraulic Actuator

- Deadband adjustable down to 0.1% of stroke
- Thrusts up to 500,000 Lbf
- On/Off or Modulating Service
- Fail Last, Fail Close or Fail Open

E²H SERIES Design



Specifications

- **Thrusts up to 500,000 Lbf (For higher thrust consult with the factory)**
- **Deadband adjustable down to 0.1% of stroke**
- **ESD Capable**
- **100% Duty Cycle**
- **Very Low Power Consumption - Lock in Place**
- **Tight Shutoff**
- **On/Off or Modulating Service**
- **Fail Last Lock, Fail Close or Fail Open**
- **Hydraulic Manual Overide Available**

Compact: All in one design. No need for a separate hydraulic power unit and hoses.

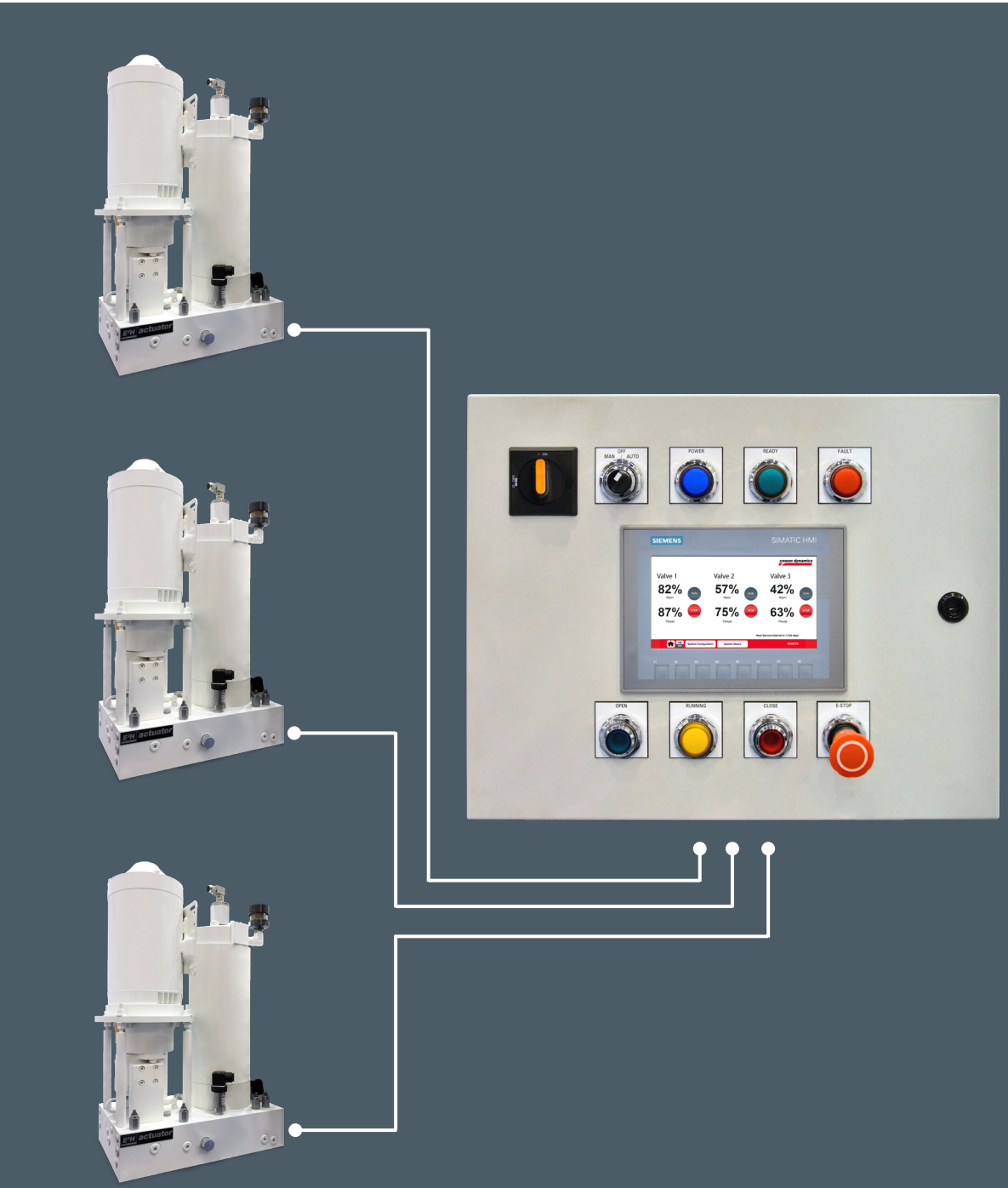
Simple: Large, easy to use touch screen for quick setup and operation.

Data logging: System records position and time data for valve performance analysis.

Partial Stroke Test: Initiate PST from touch screen or remotely.

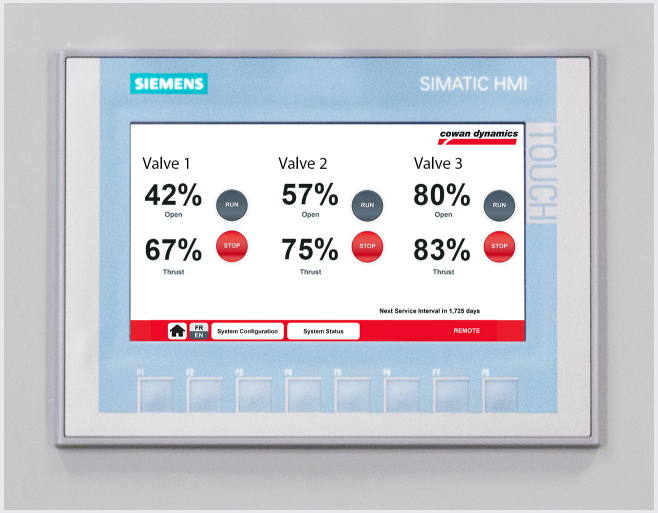
Versatile: Can be mounted in horizontal valve stem applications.

Remote Diagnostics and Trouble-Shooting by Cowan*
*(*direct VPN connection required)*

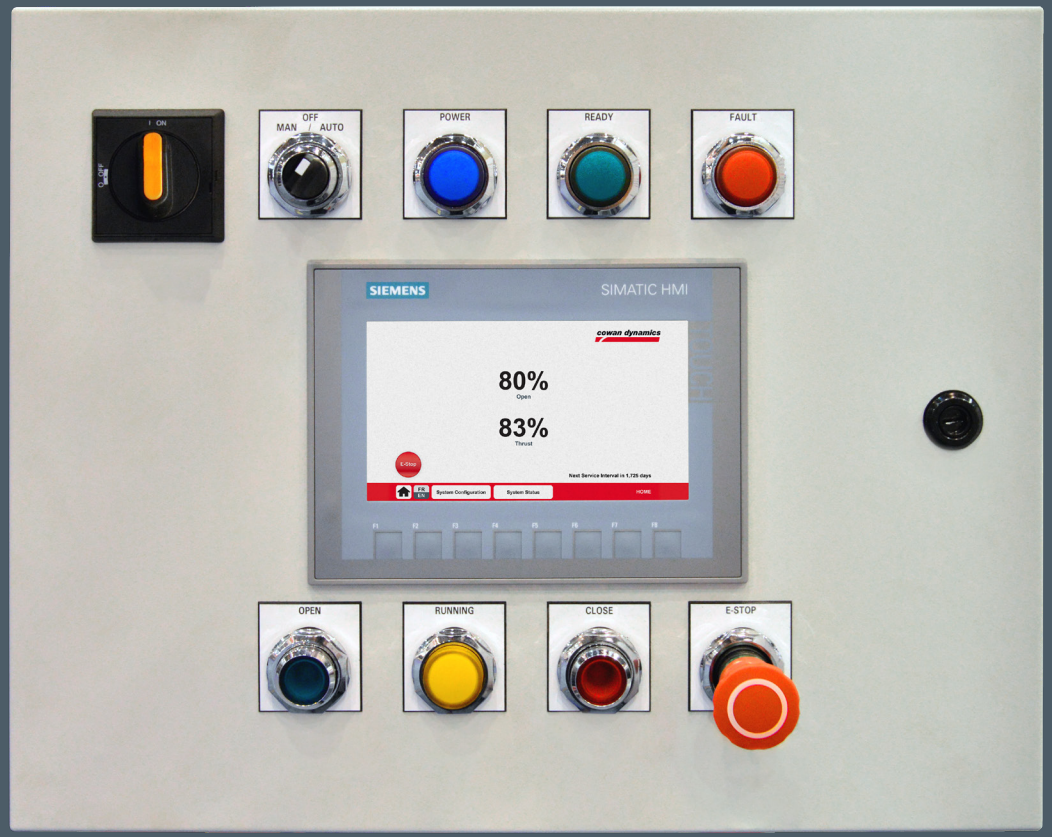


Operate Your E²H Remotely Using Our Remote Panel Option

- The control panel can be mounted remotely and control multiple valves.
- It's ideal for hazardous area locations.
- It gives you the flexibility to mount the control panel in a safe zone thereby providing a significant cost saving.
- Access valve performance data for multiple valves from one control panel.
- Designed to suit your installation.



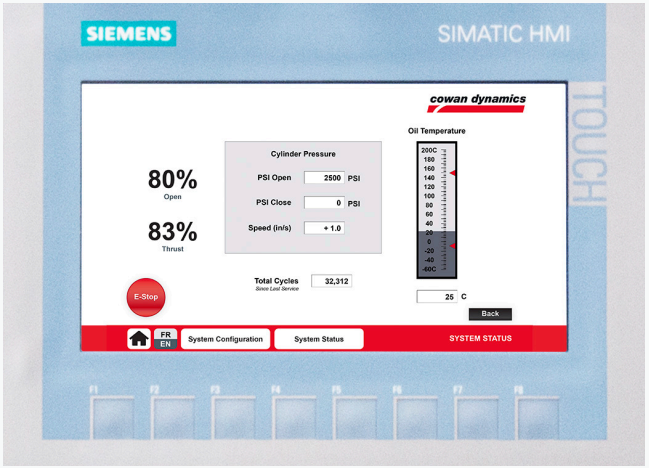
E²H PANEL Design



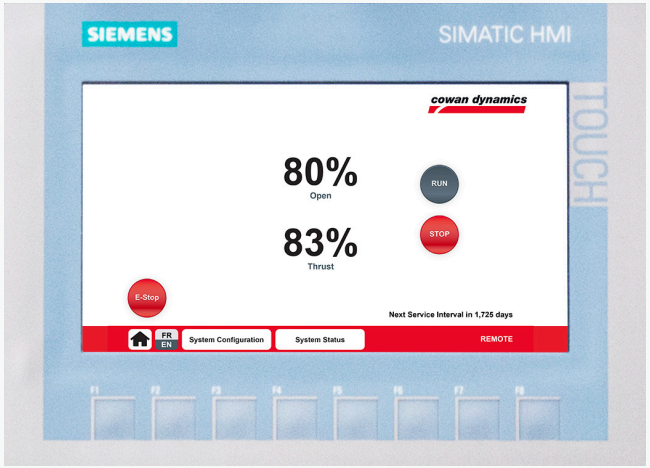
Main Panel: The E²H control panel comes standard with a touch screen* for quick setup and easy operation. The panel can be mounted remotely or on your E²H.

In addition, you can operate your E²H locally using the physical buttons on the front of the panel.

**Touch Screen not available for low temperature applications*



Status Screen: The E²H status screen gives you a quick overview of your system status. Available from the touch screen* or via Ethernet.



Remote Screen: Operate your E²H remotely using one of the communication protocols below.

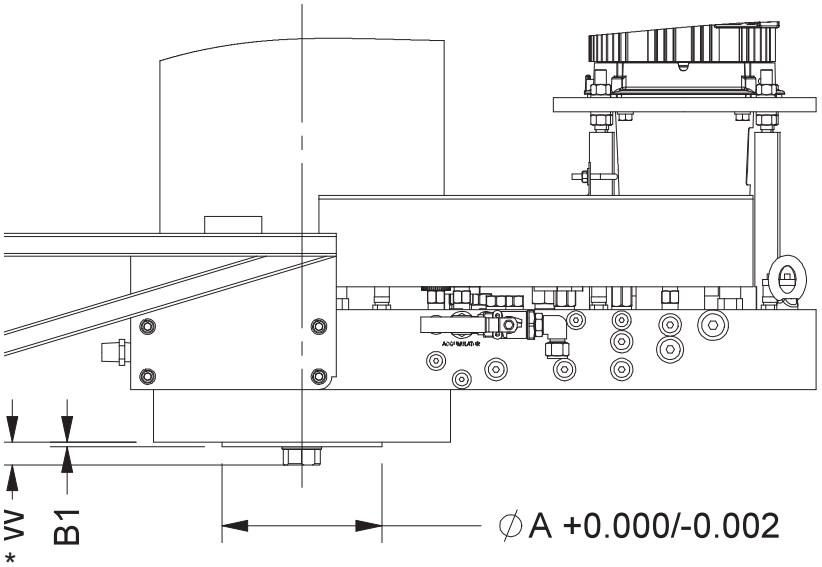
HART COMMUNICATION PROTOCOL

PROFINET®

PROFIBUS®

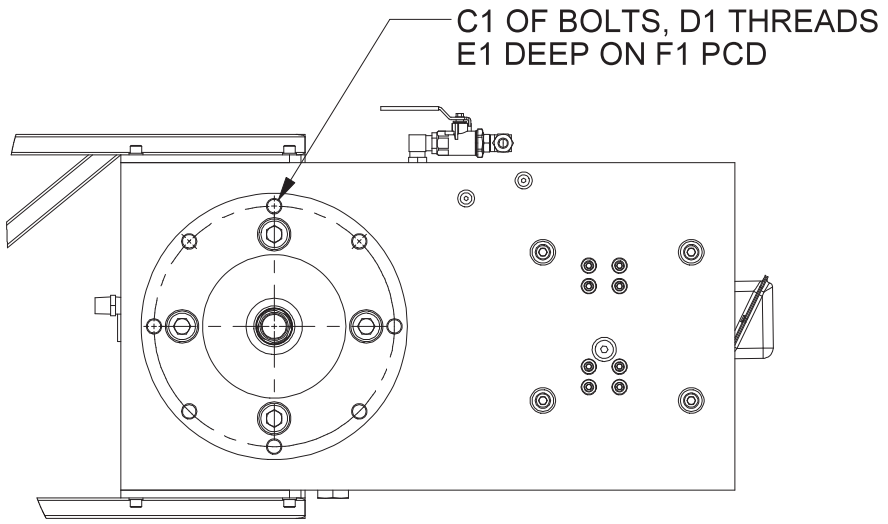
Mounting Flange Dimensions

Side View



* See next page for "W" dimensions

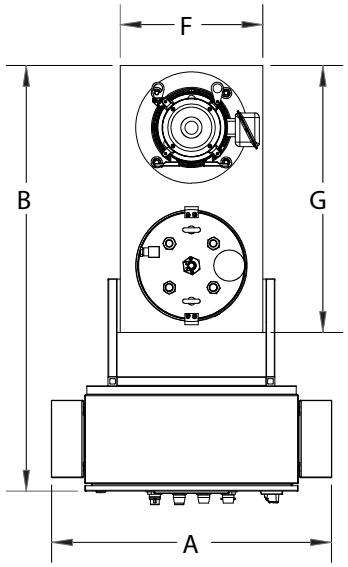
Bottom View

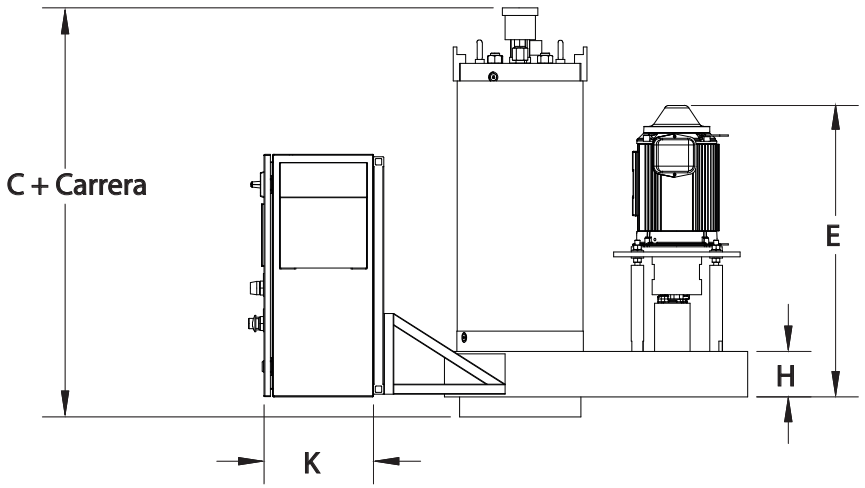


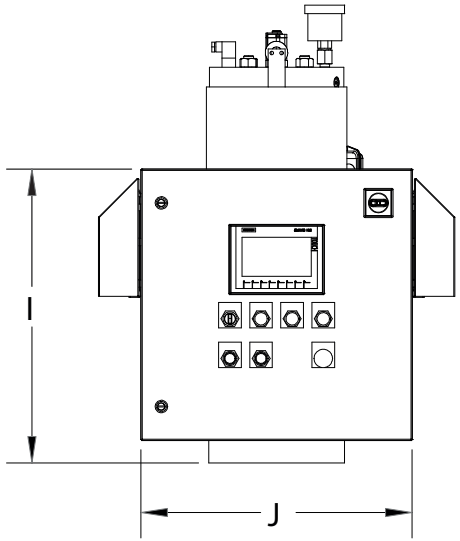
ISO Flange Mounting Dimensions (in)							
ISO FLANGE	MAX. THRUST (lbs.)	A	B1	C1	D1	E1	F1
F07	4,495	2.165	0.118	4	M8	7⁄16	2.755
F10	8,990	2.756	0.118	4	M10	5⁄8	4.016
F14	22,480	3.937	0.157	4	M16	3⁄4	5.512
F16	33,723	5.118	0.197	4	M20	7⁄8	6.496
F25	44,964	7.874	0.197	8	M16	7⁄8	10.000
F30	73,066	9.055	0.197	8	M20	7⁄8	11.732
F35	157,374	10.236	0.197	8	M30	7⁄8	14.016
F40	247,302	11.811	0.314	8	M36	7⁄8	15.984

MSS Flange Mounting Dimensions (in)							
MSS FLANGE	MAX.THRUST (lbs.)	A	B1	C1	D1	E1	F1
FA07	4,500	2.166	0.120	4	5⁄16-18	11⁄16	2.750
FA10	9,000	2.312	0.120	4	3⁄8-16	11⁄16	4.000
FA14	25,000	3.750	0.160	4	5⁄8-11	13⁄16	5.500
FA16	35,000	5.000	0.190	4	3⁄4-10	1 1⁄8	6.500
FA25	50,000	6.000	0.190	8	5⁄8-11	1 1⁄8	10.000
FA30	75,000	7.000	0.190	8	3⁄4-10	1 1⁄8	11.750
FA35	140,000	8.500	0.190	8	1-8	1 1⁄4	14.000
FA40	230,000	9.000	0.320	8	1 1⁄4-7	1 1⁄2	16.000

Dimensions







Bore	Motor	Close Thrust	Open Thrust	Speed	A	B	C (Add Stroke)	E	F	G	H	I	J	K	W	Base Weight	Weight per inch of stroke
(in)	(HP)	(lbs)	(lbs)	(in/sec)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(Lbs)	(Lbs)
1 ½	1	4,416	2,453	1.25	27.49	32.82	17.91	26.04	9	15	4.5	25.5	20	11	0.63	303	2.1
2	1.5	7,850	4,140	1.00	27.49	32.82	17.91	26.04	9	15	4.5	25.5	20	11	0.75	324	2.4
2 ½	3	12,266	8,555	1.00	27.49	39.82	18.16	28.07	12	22	4.5	25.8	20	11	0.75	413	2.7
3 ¼	5	20,729	17,019	1.00	31.49	39.84	18.81	28.82	12	22	4.5	25.8	24	11	0.88	509	2.9
4	5	31,400	25,390	1.00	31.49	47.84	18.72	28.82	16	30	4.5	25.8	24	11	1.00	739	5.8
5	5	49,063	41,213	0.50	31.49	47.84	20.58	28.82	16	30	4.5	26.0	24	11	1.13	782	6.3
5	7.5	49,063	41,213	1.00	31.49	47.84	20.58	32.87	16	30	4.5	26.0	24	11	1.13	839	6.3
6	7.5	70,650	58,384	0.50	31.49	47.84	20.85	32.87	16	30	4.5	26.8	24	11	1.25	1,004	8.2
6	15	70,650	58,384	1.00	31.49	47.84	20.85	39.67	16	30	4.5	26.8	24	11	1.25	1,069	8.2
7	7.5	96,163	78,500	0.50	31.49	53.84	23.47	32.87	18	36	4.5	27.5	24	11	1.25	1,275	10.2
7	15	96,163	78,500	1.00	31.49	53.84	23.47	39.67	18	36	4.5	27.5	24	11	1.25	1,420	10.2
8	7.5	125,600	101,559	0.50	31.49	53.84	23.97	32.87	18	36	4.5	27.5	24	11	1.25	1,304	11.4
8	15	125,600	101,559	0.67	31.49	53.84	23.97	39.67	18	36	4.5	27.5	24	11	1.25	1,449	11.4
10	7.5	196,250	156,509	0.25	31.49	55.84	27.05	32.87	22	38	4.5	28.5	24	11	1.50	1,817	19.0
10	15	196,250	156,509	0.50	31.49	55.84	27.05	39.67	22	38	4.5	28.5	24	11	1.50	1,963	19.0
12	7.5	282,600	223,234	0.16	31.49	55.84	29.35	32.87	22	38	4.5	29.0	24	11	1.50	2,288	29.0
12	15	282,600	223,234	0.33	31.49	55.84	29.35	39.67	22	38	4.5	29.0	24	11	1.50	2,434	29.0

**For higher thrusts consult factory*

Features

Operational Temperature Ratings

Standard - (-20C to +40C)

High - (-20C to +55C)

Low - (-50C to +40C)

Standard HMI - (0C to +40C)

Low Temp HMI - (-30C to +40C)

Hazardous Area Classification- Options

CSA CI1,Div1,Gr C&D

CSA CI1,Div2,Gr A,B,C&D

ATEX, II 3G EEx nA II T3 -40°C ≤ Ta ≤ 65°C

ATEX, II 3G EEx nA II T3 -40°C ≤ Ta ≤ 65°C, Tamb ≤ 65°C

Power Supply Voltage

240VAC/1 Phase/60 HZ

115VAC/1 Phase/50 HZ

460VAC/3 Phase/60 HZ

575VAC/3 Phase/60 HZ

Environmental Protection Rating

Nema 4/IP66- Standard

Nema 4x/IP66 Corrosion Resistant

Communication Protocol- Options

4-20ma + HART

PROFIBUS

PROFINET

HMI

HMI-Multi Color Touch Screen

No HMI- Push bottoms/lights- Standard

Fail System

Power Fail-With Accumulator

Power Fail-With Spring

Control Panel

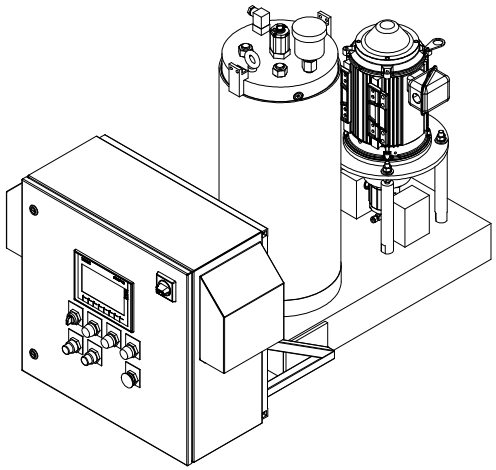
Installed on the actuator-Standard

Installed Remote- Optional

Manual Override- Optional

Hydraulic hand pump

HART COMMUNICATION PROTOCOL · PROFINET · PROFIBUS · ATEX



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