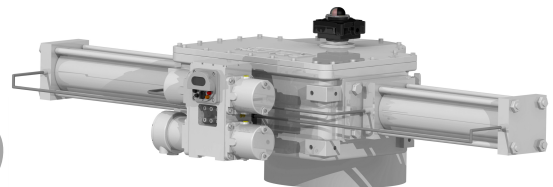
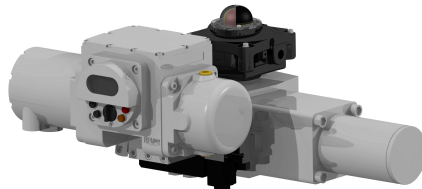
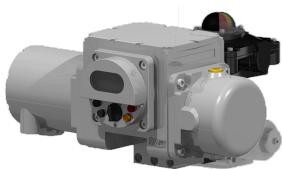


Automation & Flow Control



Electro-Hydraulic Actuators



RPM^{TECH}

RPMTECH CO., LTD.

Established in 2002

South Korea

- Oil and Gas
- Power / Energy
- Steel
- Water Treatment
- Chemical
- Mines
- Cement
- Industrial (general)
- Pulp / Paper
- Marine / Shipbuilding

www.rpmtech.co.kr

A word from the CEO

RPMTECH CO., LTD. was established in 2002 and we have been developing and manufacturing Electro-Hydraulic Valve Actuators for nearly 20 years. Our products are equipped with remote / local control methods, advanced control modes, and optional fail-safe mechanisms that allow for maximum efficiency and reliability. Our actuators are powerful, compact and versatile. RPMTECH has pioneered the Electro-Hydraulic Actuator market and is constantly striving to do so with our patented and certified technology.

RPMTECH Actuators have many applications in the water, marine/shipbuilding, power/energy, and chemical/petro-chemical industries and beyond. All of our products are custom built to best fit the needs of our clients. We will constantly strive to make reliable and innovative products and provide you with the best customer service possible. Thank you!

Founder and CEO

Business Philosophy



Credibility



Customer Orientation



Innovation

History

2002

September 29, 2002
RPMTECH CO., LTD.
Officially Established

December 29, 2006
Technology
Innovation-Oriented
Small & Medium
Business (INNO-BIZ)

May 2, 2007
Selected as Visionary
Patent-Based Business
(Daejeon City)

May 24, 2004
Registered First Patent: Self-
bearing Step Motor System and
Its Control Method

July 5, 2011
Top Quality Protection and Safety
Device Award
(Korean Occupational Safety and
Health Agency)

October 16, 2014
Best Technologically
Innovative Small &
Medium Business
(Awarded by the
Minister of Trade,
Industry, and Energy)

April 29, 2014
International Certifications: IECEx
(KTL), ATEX (INERIS)
MICRO HYDRAULIC POWER
PACK(MHPX, DHPX, RX)

June 5, 2015
Business with
Excellence in
Technology and
Innovation
(K-Water)

July 8, 2015
US Patent: Apparatus Operating
Hydraulic Actuator for Valve
(Total: 18 RPMTECH Patents)

October 18, 2016
Eligibility for Participation in
Open Competitive Bidding:
Valve Actuators
(Public Procurement Service)

February 23, 2016
Korea Occupational Safety and Health
Agency Explosion Proof Certification
(Total: 31 Korean / International
Certifications)

March 21, 2019
Money Today Korea:
Most Innovative Korean
Small & Medium
Business 2019

Present

Product Overview

Overview

RPMTECH™ Electro-Hydraulic Actuators	4
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Types of Installation	6

Quarter-Turn Valve Actuators

MHP Series

MHP Electro-Hydraulic Quarter-Turn Valve Actuator	8
MHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator 	10
MHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator 	12

DHP Series (High-Performance)

DHP Electro-Hydraulic Quarter-Turn Valve Actuator	14
DHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator 	16
DHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator 	18

Linear Valve Actuators

MHP Series

MHP Electro-Hydraulic Linear Valve Actuator	20
MHP Spring-Return Electro-Hydraulic Linear Valve Actuator 	22
MHP Emergency-Close Electro-Hydraulic Linear Valve Actuator 	24

DHP Series (High-Performance)

DHP Electro-Hydraulic Linear Valve Actuator	26
DHP Spring-Return Electro-Hydraulic Linear Valve Actuator 	28
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Multi-Turn Valve Actuators

MHP Series

MHP Electro-Hydraulic Multi-Turn Valve Actuator	32
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DHP Series (High-Performance)

DHP Electro-Hydraulic Multi-Turn Valve Actuator	34
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Power Cylinders

MHP Series

MHP Electro-Hydraulic Power Cylinder	36
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DHP Series (High-Performance)

DHP Electro-Hydraulic Power Cylinder	38
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RPMTECH™ Electro-Hydraulic Actuators

Electro-Hydraulic Actuators are driven by the **hydraulic pressure** generated from an **electric motor**, which is then delivered to the **hydraulic cylinder** to control the **valve**.



Compact and All-in-One

RPMTECH™ actuators are equipped with hydraulic pressure generators, a high tech controller, and a manual hand pump built on patented technology. The compact, all-in-one design and the modular installation capabilities makes the actuators versatile and easy to conduct maintenance.



Advanced Software

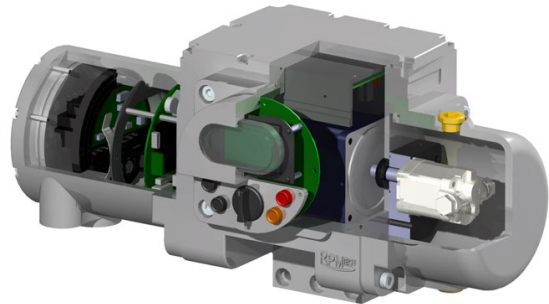
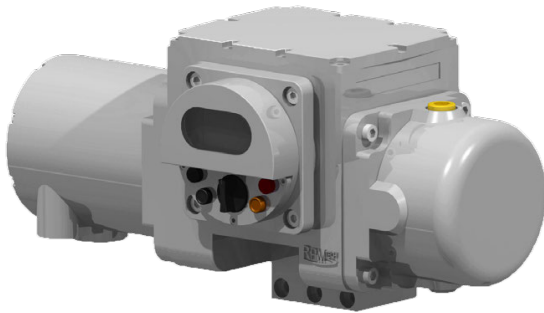
RPMTECH™ actuators support a variety of communication platforms to best fit the needs of the end user. The user can access virtually all settings and advanced control modes via the LCD display. The self-diagnosis feature allows for simple maintenance and maximum efficiency.



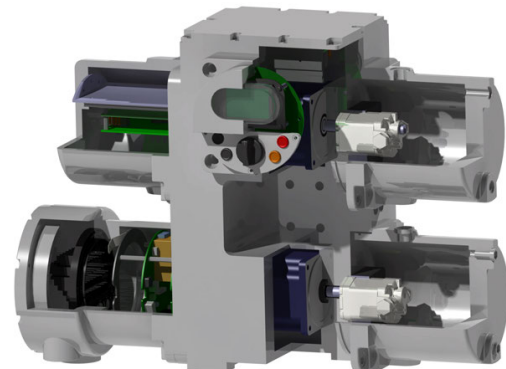
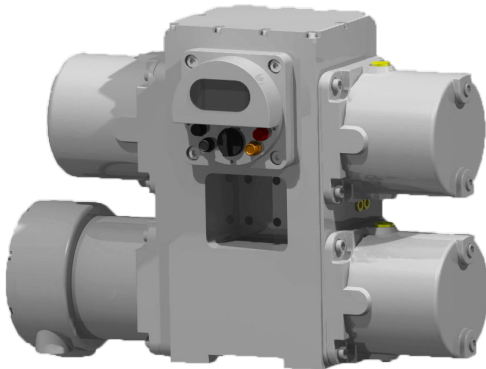
Safe and Reliable

RPMTECH™ actuators are engineered (both software and hardware) to maximize the safety of the user and enhance the reliability of the product. The manual hand pump is engineered based on patented technology and adds more reliability especially during a power loss or emergency. Also, Modular Installation allows for the actuator to be installed at a safe and accessible location.

MHP (Micro Hydraulic Power-pack)



DHP (Dual Hydraulic Power-pack)



Hydraulic Power-pack: MHP vs DHP

Electro-Hydraulic Actuators built by RPMTECH™ are equipped with either the **MHP** (Micro Hydraulic Power-pack) or the **DHP** (Dual Hydraulic Power-pack). The key difference is that the DHP has two motors, which allows the **operation speed to double** and adds a **redundancy feature** where the actuator is operated by a single motor when the other motor malfunctions.

All RPMTECH™ Electro-Hydraulic Actuators include:

- High-efficiency bi-directional brushless DC motor(s)
- Buttons/switches for local control (magnetically operated, isolated from the electrical circuitry)
- Built-in Graphic LCD display
- Built-in oil tank with optional biodegradable hydraulic oil (non-toxic)
- Patented Manual Hand Pump

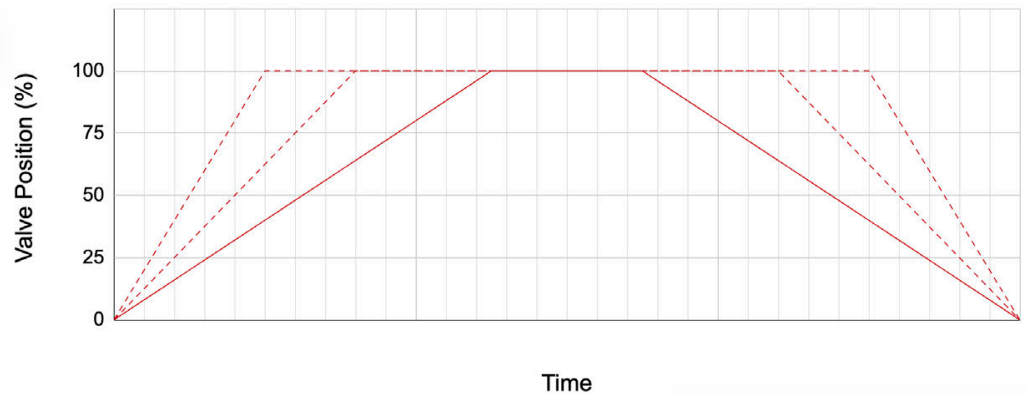
Advanced Control Modes

Advanced Control Modes optimized for **precise flow control**, **water-hammer absorption**, and **valve disk protection**

Open/Close

Open and Close at constant speed where the speed is configurable.

(applicable to all models)



Modulation

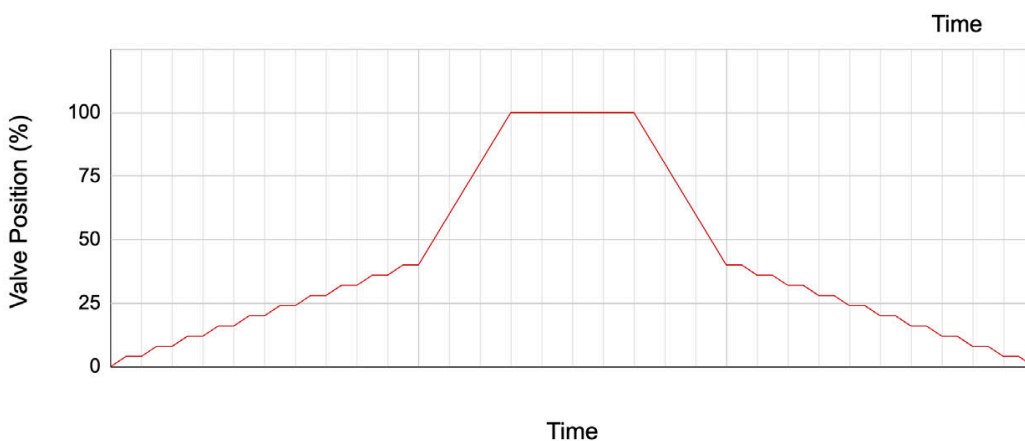
Maintains valve at a certain position (configurable every 1%).

(Optional)

Speed Control

The Open/Close operation is divided into 3 sections where the speed and stop time at each section is configurable.

(Optional)



Step Control

The actuator operates very slowly at a constant interval to overcome the minimum operating speed of the motor. This feature helps absorb shock from water hammering and improves fluid stability.

(Optional)

EMC

The actuator is connected to an Uninterruptible Power Supply (UPS), which is essentially a backup battery for emergencies. (Optional)

Types of Installation

1 Vertical Installation

Applicable Valves

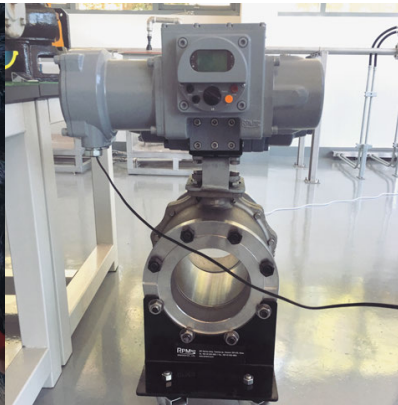
Butterfly Valves, Ball Valves, Plug Valves, Gate Valves, Globe Valves, etc.

Features

- Valve Stem is **vertical**
- Actuator is **directly attached** to the valve
- Gearbox **not required**
- Direction of the Actuator is **adjustable every 90°**



200A Ball Valve (1,100 Nm)



200A Ball Valve (1,100 Nm)



200A Butterfly Valve (1,100 Nm)

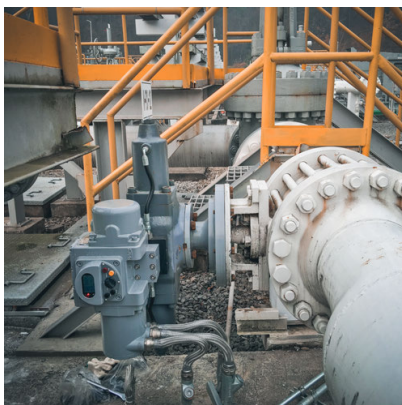
2 Horizontal Installation

Applicable Valves

Butterfly Valves, Ball Valves, Plug Valves, Gate Valves, etc.

Features

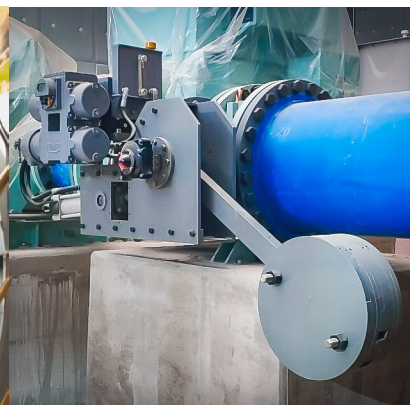
- Valve Stem is **horizontal**
- Actuator can be **directly attached** to the valve or attached via **link connection**
- Gearbox **not required**
- Direction of the Actuator is **adjustable every 90°**



Ball Valve (9,000 Nm)



Butterfly Valve (32,000 Nm)



Fail-Safe Butterfly Valve (23,000 Nm)

3 Extended Vertical Installation

Applicable Valves

Butterfly Valves, Ball Valves, Plug Valves, Gate Valves, Globe Valves, etc.

Features

- Actuator is **directly attached** to the valve via an **extended valve stem**
- Valve Stem is **vertical**, commonly applied to **submerged valves**
- Gearbox **not required**
- Allows for **safe** and **accessible** (remote) operation of the valve



4 Modular Installation

Applicable Valves

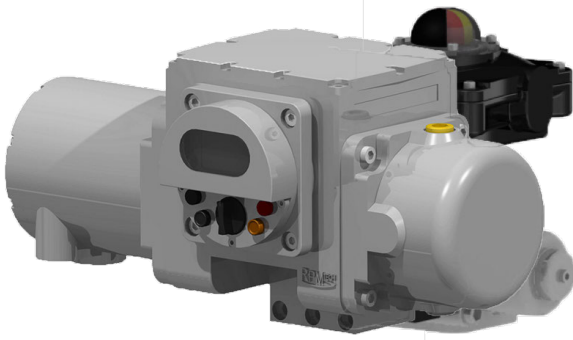
Butterfly Valves, Ball Valves, Plug Valves Gate Valves, Globe Valves, etc.

Features

- Actuator and Cylinder is **installed separately**
- Valve Stem and Actuator can be installed in **any direction**
- Gearbox **not required**
- Allows for **safe** and **accessible** (remote) operation of the valve



MHP Electro-Hydraulic Quarter-Turn Valve Actuator



Mechanical	Torque	600 Nm ~ 32,000 Nm ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Mechanical	Stroke Limit
	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access

1			2	3	4	5	6		7	8		9	10		
M	H	P					1	0		Q	N	N			

Model Number

- 1 Power-pack²**
MHP (Micro Hydraulic Power-pack)

- 2 Enclosure**

Code	Enclosure
W	IP 68 Water-proof
X	Exd II B T4 Explosion-proof

- 3 Power**

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

- 4 Advanced Control Modes³**

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
K	○	○	○	-	-	-
M	○	○	-	○	-	-
S	○	○	○	○	-	-
I	○	○	-	○	○	○

- 5 Communication⁴**

Code	Communication
N	AIO/DIO
P	Profibus

- 6 Resolution**

Code	Resolution
10	Default: 1% (±0.5%)

- 7 Operating Time**

Time Range (s)	Code		
	0	1	2
600	11~39	5~16	3~9
1,100	19~70	8~29	5~15
2,200	35~135	15~55	8~28
5,000	76~301	31~121	16~61
9,000	193~767	78~308	40~155
16,000	344~1372	139~550	70~276
32,000	625~2495	251~999	126~500

- 8 Fail-Safe Method**

Code	Fail-Safe
QN	Quarter-Turn (Not Fail-Safe)

- 9 Fail-Safe Direction**

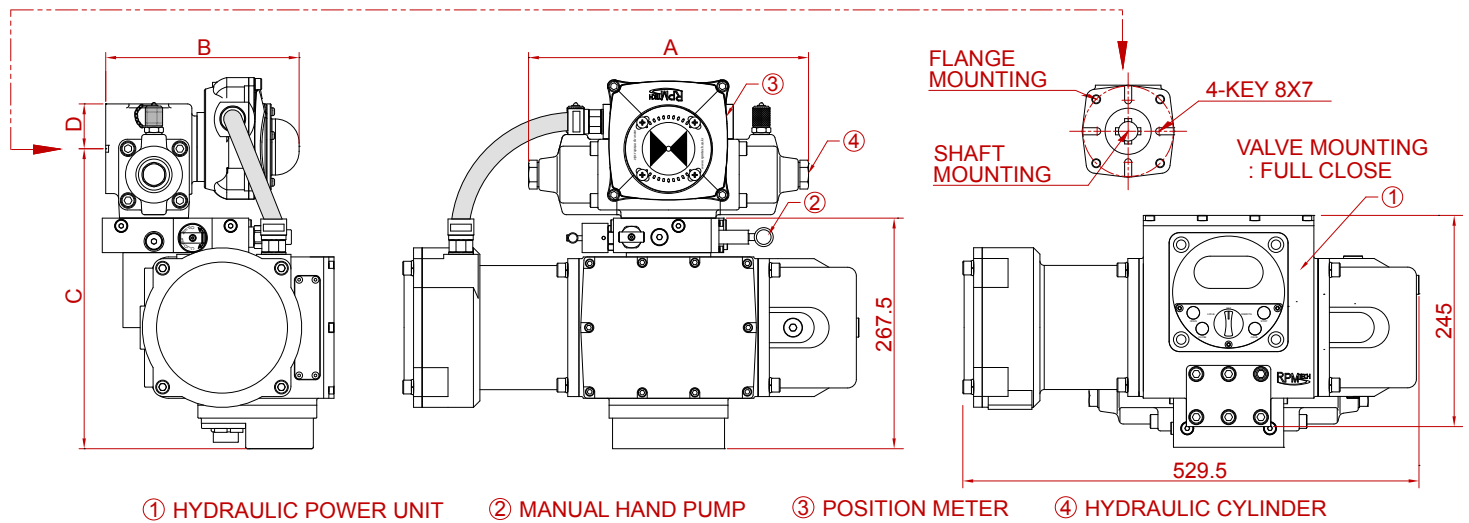
Code	Fail-Safe Direction
N	Not Fail-Safe

- 10 Torque¹**

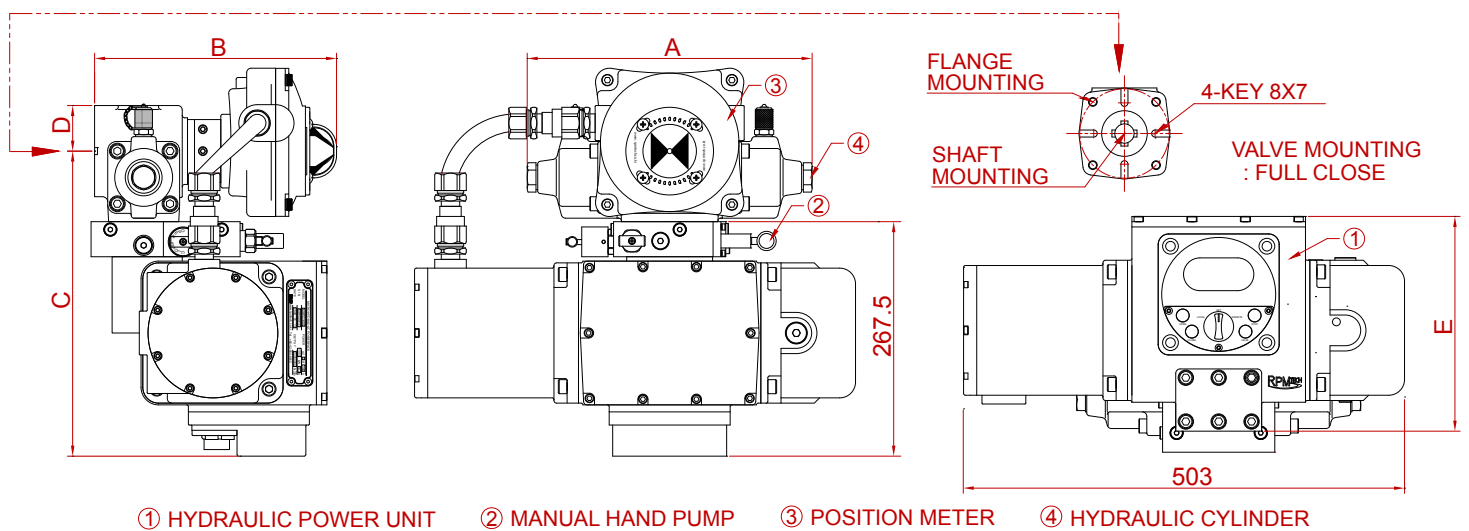
Code	Torque	
	Nm	lb ft
0006	600	443
0011	1,100	811
0022	2,200	1,623
0050	5,000	3,688
0090	9,000	6,638
0160	16,000	11,801
0320	32,000	23,602

1. Contact for higher torque
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms

MHP Electro-Hydraulic Quarter-Turn Valve Actuator: Water-proof



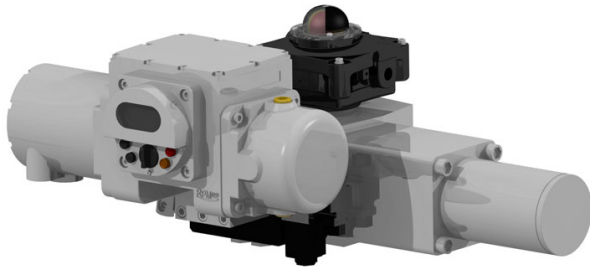
MHP Electro-Hydraulic Quarter-Turn Valve Actuator: Explosion-proof



Dimensions of the MHP Electro-Hydraulic Quarter-Turn Valve Actuator									
Model	Dimensions (mm)				Flange ISO5211	Shaft Diameter (mm)	Shaft Length (mm)	Key (mm)	
	A	B	C	D					
MHP _____ QNN0006	324	276	348	52	F10	22	60	8 x 7	
MHP _____ QNN0011	399	290	361	62	F12	30	70	10 x 8	
MHP _____ QNN0022	479	318	383	73	F14	40	80	12 x 8	
MHP _____ QNN0050	634	348	412	91	F16	65	100	20 x 12	
MHP _____ QNN0090	919	383	461	127	F16	75	110	20 x 12	
MHP _____ QNN0160	1145	446	501	150	F25	95	150	25 x 14	
MHP _____ QNN0320	1462	527	558	175	F30	110	180	28 x 16	

MHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator

✓ Fail-Safe



Mechanical	Torque	500 Nm ~ 60,000 Nm ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) NPT 3/4
	DI/O	(CENTER) NPT 1
	AI/O	(LEFT) NPT 3/4
Safety	Mechanical	Stroke Limit
	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access

1		2	3	4	5	6		7	8		9	10				
M	H	P	X				1	0		Q	S					

Model Number

1 Power-pack²

MHP (Micro Hydraulic Power-pack)

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

8 Fail-Safe Method

Code	Fail-Safe
QS	Quarter-Turn Spring-Return Cylinder

2 Enclosure

Code	Enclosure
X	Exd II B T4 Explosion-proof

6 Resolution

Code	Resolution
10	Default: 1% (±0.5%)

9 Fail-Safe Direction

Code	Fail-Safe Direction
O	Fail-Safe Open
C	Fail-Safe Close

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

7 Operating Time

Time Range (s)	Code		
	1	2	3
500	12~41	6~21	4~14
1,000	39~133	20~67	13~44
2,000	68~231	34~116	23~77
5,000	109~370	54~185	36~123
10,000	223~757	111~379	74~252
15,000	383~600	191~600	128~434
20,000	-	326~600	217~600
25,000	-	353~600	236~600
30,000	-	477~600	318~600
40,000	-	587~600	391~600
50,000	-	-	418~600
60,000	-	-	586~600

10 Torque¹

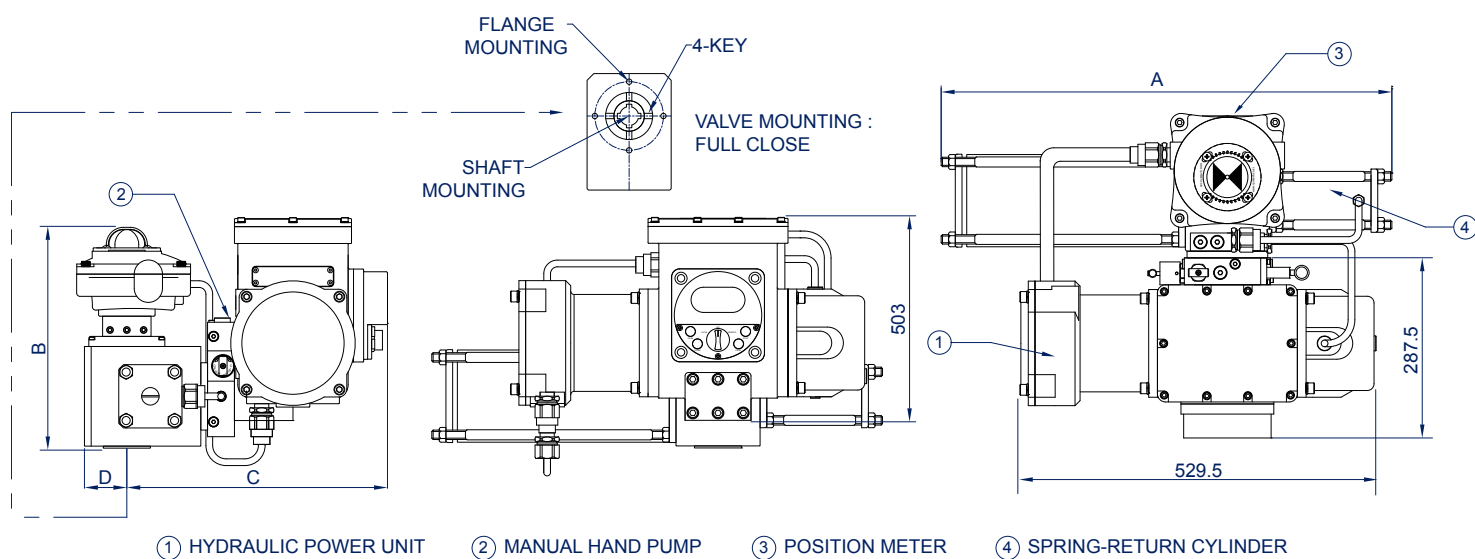
Code	Torque	
	Nm	lb ft
0005	500	369
0010	1,000	738
0020	2,000	1,475
0050	5,000	3,688
0100	10,000	7,376
0150	15,000	11,063
0200	20,000	14,751
0250	25,000	18,439
0300	30,000	22,127
0400	40,000	29,503
0500	50,000	36,878
0600	60,000	44,254

4 Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-

1. Contact for higher torque
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms

MHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator

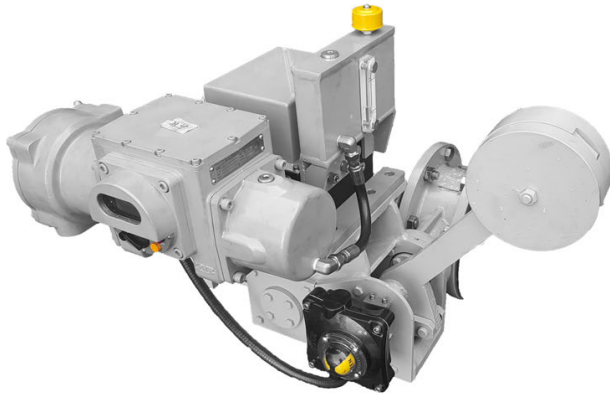


Dimensions of the MHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator

Model		Dimensions (mm)				Flange ISO5211	Shaft Diameter (mm)	Shaft Length (mm)	Key (mm)
		A	B	C	D				
Explosion-proof Enclosure	MHPX_____QS_0005	670	403	388	63	F10	28	40	8 x 7
	MHPX_____QS_0010	782	429	418	75	F12	36	50	10 x 8
	MHPX_____QS_0020	1087	463	435	90	F14	48	60	14 x 9
	MHPX_____QS_0050	1480	509	518	105	F16	70	80	20 x 12
	MHPX_____QS_0100	1703	645	570	158	F25	80	110	22 x 14
	MHPX_____QS_0150	1832	685	565	187	F25	98	130	28 x 16
	MHPX_____QS_0200	2321	877	665	208	F30	150	180	36 x 20
	MHPX_____QS_0250	2440	904	680	235	F35	140	180	40 x 22
	MHPX_____QS_0300	2574	932	719	208	F35	160	190	40 x 22
	MHPX_____QS_0400	2575	1094	790	250	F40	170	230	45 x 25
	MHPX_____QS_0500	2724	1116	780	250	F40	170	200	45 x 25
	MHPX_____QS_0600	2892	1141	805	265	F40	180	210	45 x 25

MHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator

✓ Fail-Safe



Mechanical	Torque	600 Nm ~ 32,000 Nm ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Mechanical	Stroke Limit
	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access

1			2	3	4	5	6		7	8		9	10			
M	H	P					1	0	2	Q	W					

Model Number

1 Power-pack²

MHP (Micro Hydraulic Power-pack)

2 Enclosure

Code	Enclosure
W	IP 68 Water-proof
X	Exd II B T4 Explosion-proof

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

4 Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
K	○	○	○	-	-	-
M	○	○	-	○	-	-
S	○	○	○	○	-	-
I	○	○	-	○	○	○
U	○	○	○	-	-	○
V	○	○	○	○	-	○

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

6 Resolution

Code	Resolution
10	Default: 1% (±0.5%)

7 Operating Time⁵

Torque (Nm)	Time (s)	Code
		2
	600	Emergency Fail-Close in less than 10 seconds (Damping effect included to absorb water hammering)
	1,100	
	2,200	
	5,000	
	9,000	
	16,000	
	32,000	

8 Fail-Safe Method

Code	Fail-Safe
QW	Quarter-Turn Counterweight

9 Fail-Safe Direction

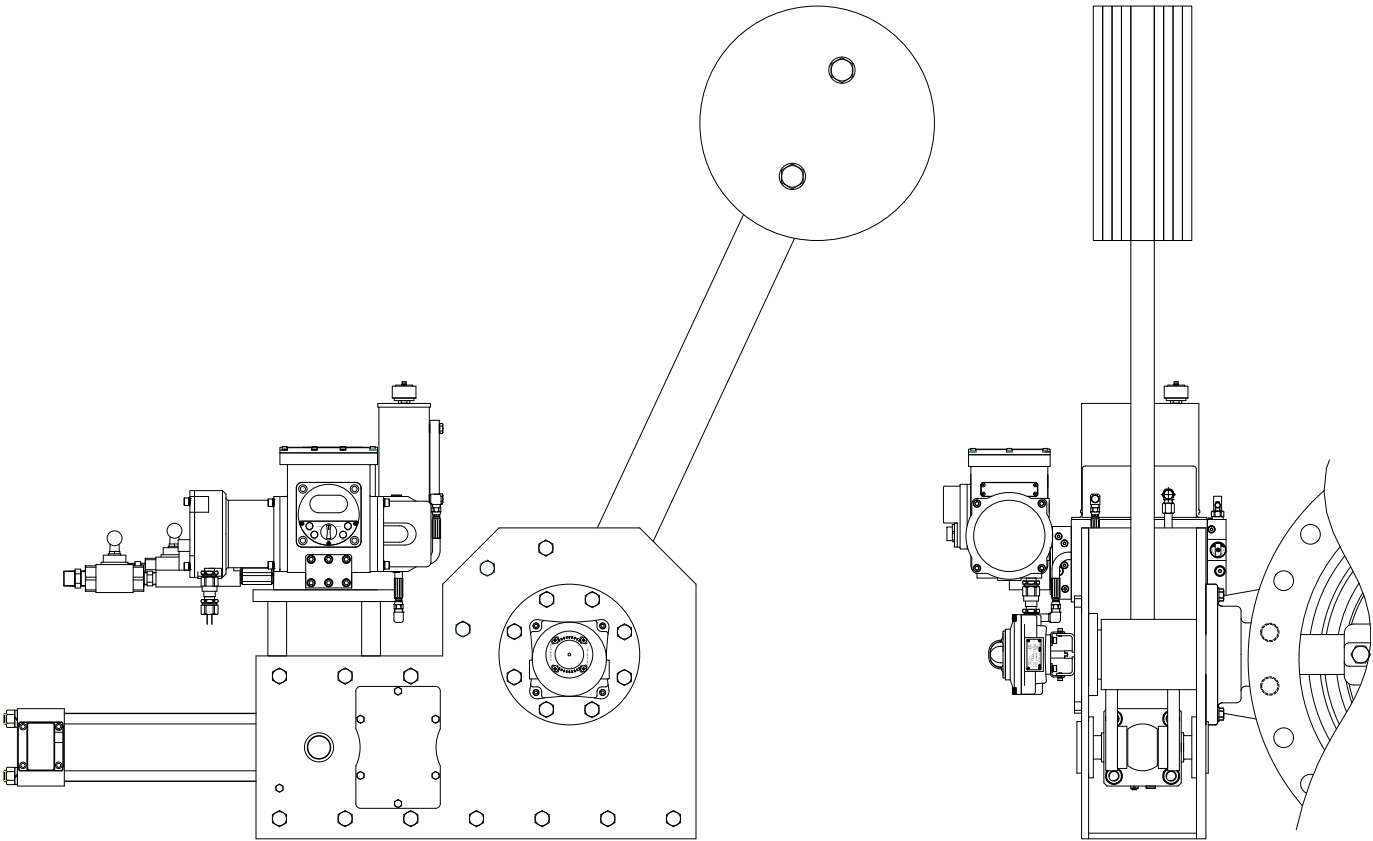
Code	Fail-Safe Direction
O	Fail-Safe Open
C	Fail-Safe Close

10 Torque¹

Code	Torque	
	Nm	lb ft
0006	600	443
0011	1,100	811
0022	2,200	1,623
0050	5,000	3,688
0090	9,000	6,638
0160	16,000	11,801
0320	32,000	23,602

1. Contact for higher torque
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms
5. Operation time is configurable (contact RPMTECH)

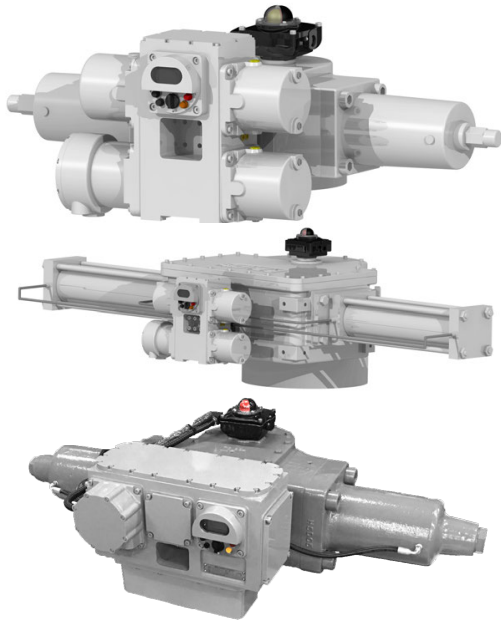
MHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator



Dimensions of the MHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator

Model	Dimensions
...	Contact for Dimensions
...	
...	

DHP Electro-Hydraulic Quarter-Turn Valve Actuator



Mechanical	Torque	600 Nm ~ 32,000 Nm ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Mechanical	Stroke Limit
	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access

1	2	3	4	5	6	7	8	9	10							
└───┘			└─┘	└─┘	└─┘	└─┘	└─┘	└─┘	└───┘							
D	H	P					1	0	4	Q	N	N				

Model Number

- 1 Power-pack²**
DHP (Dual Hydraulic Power-pack)

- 2 Enclosure**

Code	Enclosure
W	IP 68 Water-proof
X	Exd II B T4 Explosion-proof

- 3 Power**

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

- 4 Advanced Control Modes³**

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
K	○	○	○	-	-	-
M	○	○	-	○	-	-
S	○	○	○	○	-	-
I	○	○	-	○	○	○

- 5 Communication⁴**

Code	Communication
N	AIO/DIO
P	Profibus

- 6 Resolution**

Code	Resolution
10	Default: 1% (±0.5%)

- 7 Operating Time**

Time Range (s)		Code
		4
Torque (Nm)	600	2~5
	1,100	3~8
	2,200	5~15
	5,000	9~31
	9,000	21~78
	16,000	36~139
	32,000	64~251

- 8 Fail-Safe Method**

Code	Fail-Safe
QN	Quarter-Turn (Not Fail-Safe)

- 9 Fail-Safe Direction**

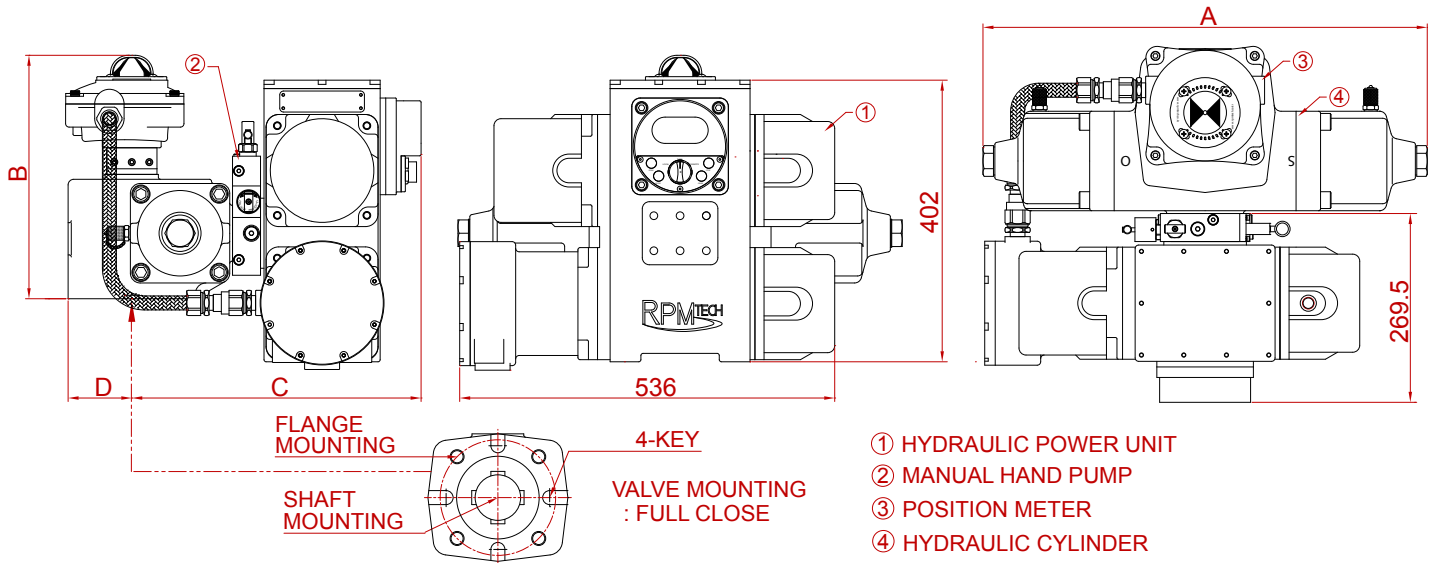
Code	Fail-Safe Direction
N	Not Fail-Safe

- 10 Torque¹**

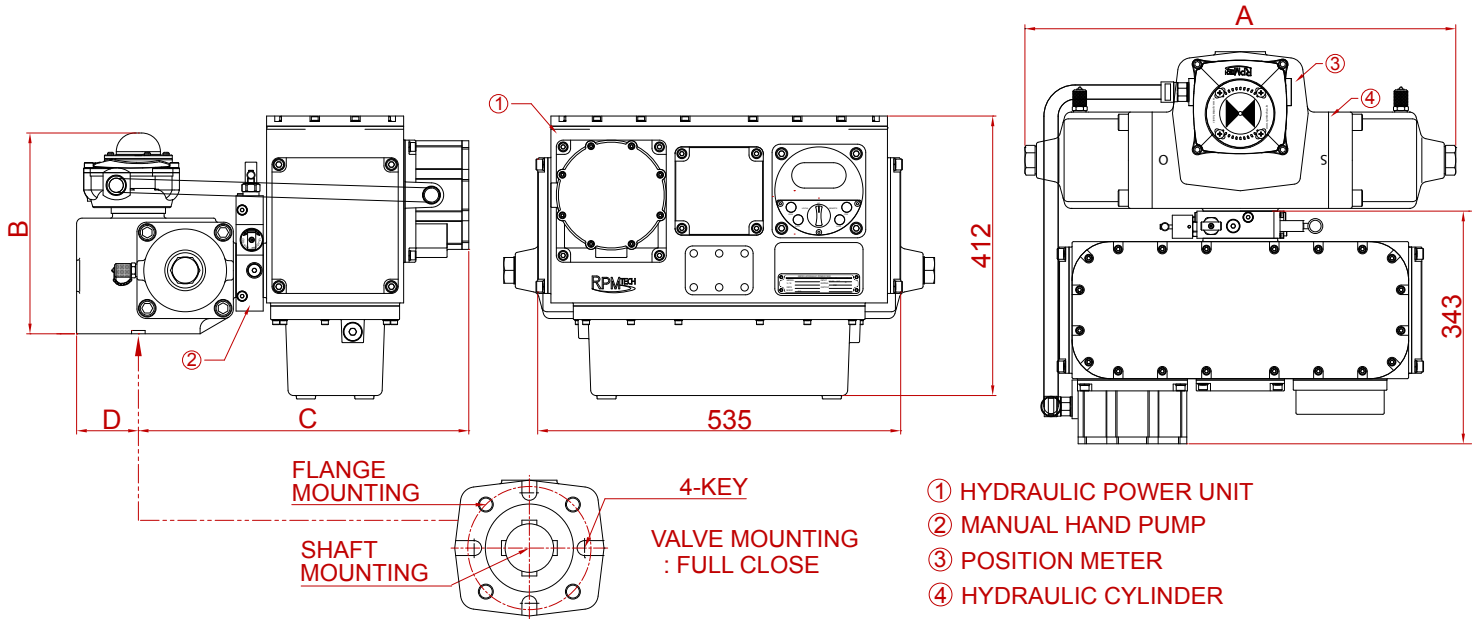
Code	Torque	
	Nm	lb ft
0006	600	443
0011	1,100	811
0022	2,200	1,623
0050	5,000	3,688
0090	9,000	6,638
0160	16,000	11,801
0320	32,000	23,602

1. Contact for higher torque
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms

DHP Quarter-Turn Actuator: Single-Phase Power



DHP Quarter-Turn Actuator: Three-Phase Power

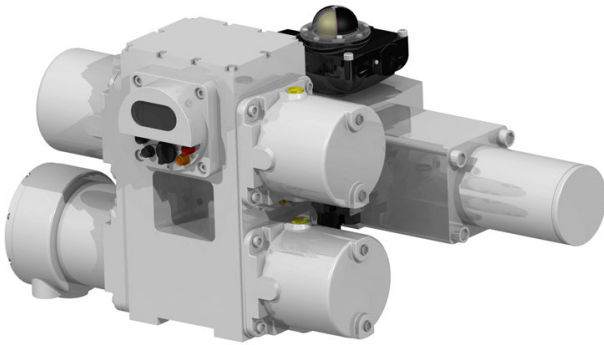


Dimensions of the DHP Electro-Hydraulic Quarter-Turn Valve Actuator

Model		Dimensions (mm)				Flange ISO5211	Shaft Diameter (mm)	Shaft Length (mm)	Key (mm)
		A	B	C	D				
Single-Phase Power	DHP _S _ _ _ _ QNN0006	324	276	348	52	F10	22	60	8 x 7
	DHP _S _ _ _ _ QNN0011	399	290	361	62	F12	30	70	10 x 8
	DHP _S _ _ _ _ QNN0022	479	318	383	73	F14	40	80	12 x 8
	DHP _S _ _ _ _ QNN0050	634	348	412	91	F16	65	100	20 x 12
	DHP _S _ _ _ _ QNN0090	919	383	461	127	F16	75	110	20 x 12
	DHP _S _ _ _ _ QNN0160	1145	446	501	150	F25	95	150	25 x 14
Three-Phase Power	DHP _S _ _ _ _ QNN0320	1462	527	558	175	F30	110	180	28 x 16
	DHP _T _ _ _ _ QNN0006	324	276	422	52	F10	22	60	8 x 7
	DHP _T _ _ _ _ QNN0011	399	290	435	62	F12	30	70	10 x 8
	DHP _T _ _ _ _ QNN0022	479	318	457	73	F14	40	80	12 x 8
	DHP _T _ _ _ _ QNN0050	634	348	486	91	F16	65	100	20 x 12
	DHP _T _ _ _ _ QNN0090	919	383	535	127	F16	75	110	20 x 12
	DHP _T _ _ _ _ QNN0160	1145	446	575	150	F25	95	150	25 x 14
	DHP _T _ _ _ _ QNN0320	1462	527	631	175	F30	110	180	28 x 16

DHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator

✓ Fail-Safe



Mechanical	Torque	500 Nm ~ 60,000 Nm ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) NPT 3/4
	DI/O	(CENTER) NPT 1
	AI/O	(LEFT) NPT 3/4
Safety	Mechanical	Stroke Limit
	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access

1			2	3	4	5	6		7	8		9	10			
D	H	P	X				1	0	4	Q	S					

Model Number

1 Power-pack²

DHP (Dual Hydraulic Power-pack)

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

8 Fail-Safe Method

Code	Fail-Safe
QS	Quarter-Turn Spring-Return Cylinder

2 Enclosure

Code	Enclosure
X	Exd II B T4 Explosion-proof

6 Resolution

Code	Resolution
10	Default: 1% (±0.5%)

9 Fail-Safe Direction

Code	Fail-Safe Direction
O	Fail-Safe Open
C	Fail-Safe Close

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

7 Operating Time

Time Range (s)		Code
		4
Torque (Nm)	500	3~10
	1,000	10~33
	2,000	17~58
	5,000	27~92
	10,000	56~189
	15,000	96~325
	20,000	163~555
	25,000	177~601
	30,000	239~812
	40,000	294~998
	50,000	313~1065
	60,000	440~1495

4 Advanced Control Modes³

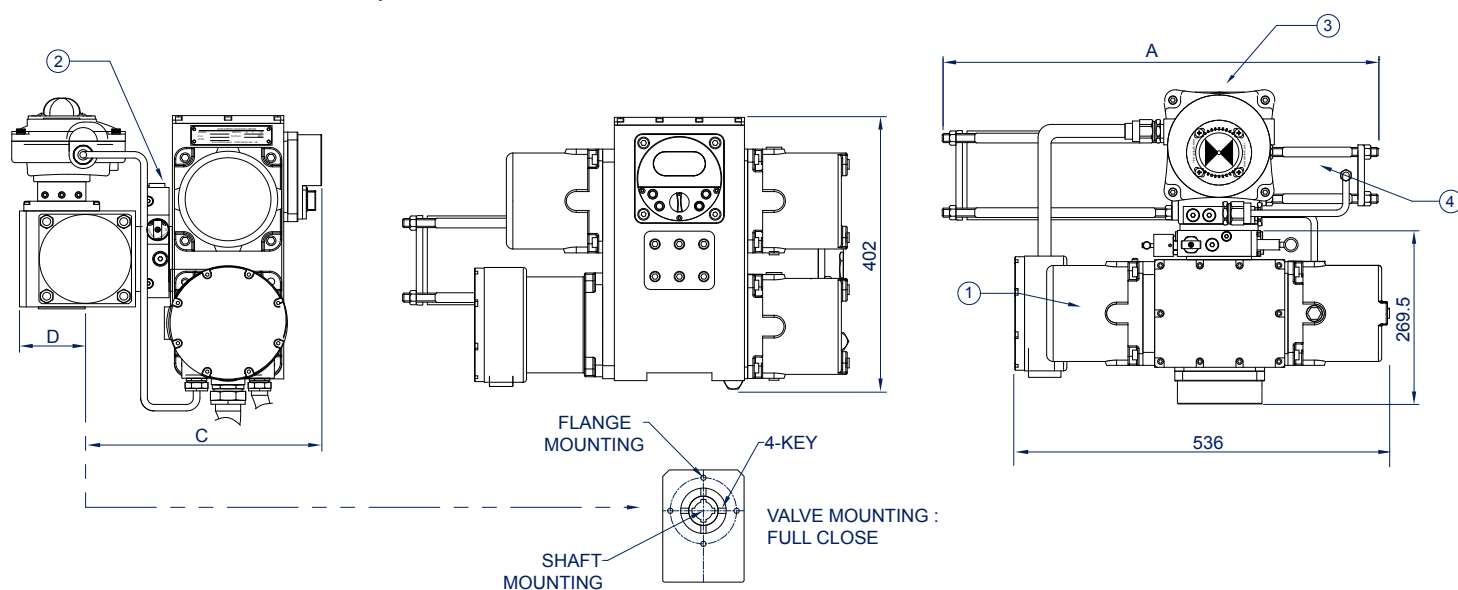
Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-

10 Torque¹

Code	Torque	
	Nm	lb ft
0005	500	369
0010	1,000	738
0020	2,000	1,475
0050	5,000	3,688
0100	10,000	7,376
0150	15,000	11,063
0200	20,000	14,751
0250	25,000	18,439
0300	30,000	22,127
0400	40,000	29,503
0500	50,000	36,878
0600	60,000	44,254

1. Contact for higher torque
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms

DHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator

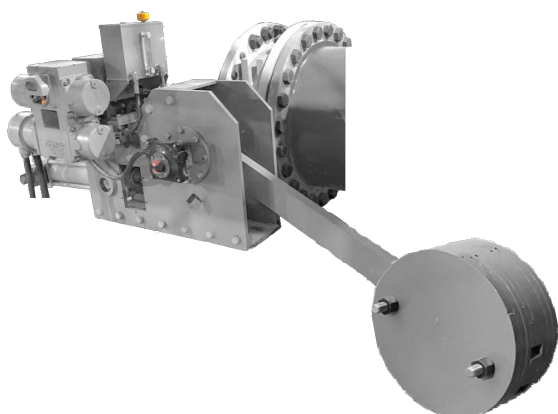


Dimensions of the DHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator

Model		Dimensions (mm)				Flange ISO5211	Shaft Diameter (mm)	Shaft Length (mm)	Key (mm)
		A	B	C	D				
Explosion-proof Enclosure	DHPX _____ QS_0005	670	403	370	63	F10	28	40	8 x 7
	DHPX _____ QS_0010	782	429	400	75	F12	36	50	10 x 8
	DHPX _____ QS_0020	1087	463	417	90	F14	48	60	14 x 9
	DHPX _____ QS_0050	1480	509	500	105	F16	70	80	20 x 12
	DHPX _____ QS_0100	1703	645	552	158	F25	80	110	22 x 14
	DHPX _____ QS_0150	1832	685	547	187	F25	98	130	28 x 16
	DHPX _____ QS_0200	2321	877	647	208	F30	150	180	36 x 20
	DHPX _____ QS_0250	2440	904	662	235	F35	140	180	40 x 22
	DHPX _____ QS_0300	2574	932	701	208	F35	160	190	40 x 22
	DHPX _____ QS_0400	2575	1094	772	250	F40	170	230	45 x 25
	DHPX _____ QS_0500	2724	1116	762	250	F40	170	200	45 x 25
	DHPX _____ QS_0600	2892	1141	887	265	F40	180	210	45 x 25

DHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator

✓ Fail-Safe



Mechanical	Torque	600 Nm ~ 32,000 Nm ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Mechanical	Stroke Limit
	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access

1		2	3	4	5	6		7	8		9	10				
D	H	P					1	0	4	Q	W					

Model Number

- 1** Power-pack²
DHP (Dual Hydraulic Power-pack)

- 2** Enclosure

Code	Enclosure
W	IP 68 Water-proof
X	Exd II B T4 Explosion-proof

- 3** Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

- 4** Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
K	○	○	○	-	-	-
M	○	○	-	○	-	-
S	○	○	○	○	-	-
I	○	○	-	○	○	○
U	○	○	○	-	-	○
V	○	○	○	○	-	○

- 5** Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

- 6** Resolution

Code	Resolution
10	Default: 1% (±0.5%)

- 7** Operating Time⁵

Time (s)		Code
		4
Torque (Nm)	600	Emergency Fail-Close in less than 10 seconds (Damping effect included to absorb water hammering)
	1,100	
	2,200	
	5,000	
	9,000	
	16,000	
	32,000	

- 8** Fail-Safe Method

Code	Fail-Safe
QW	Quarter-Turn Counterweight

- 9** Fail-Safe Direction

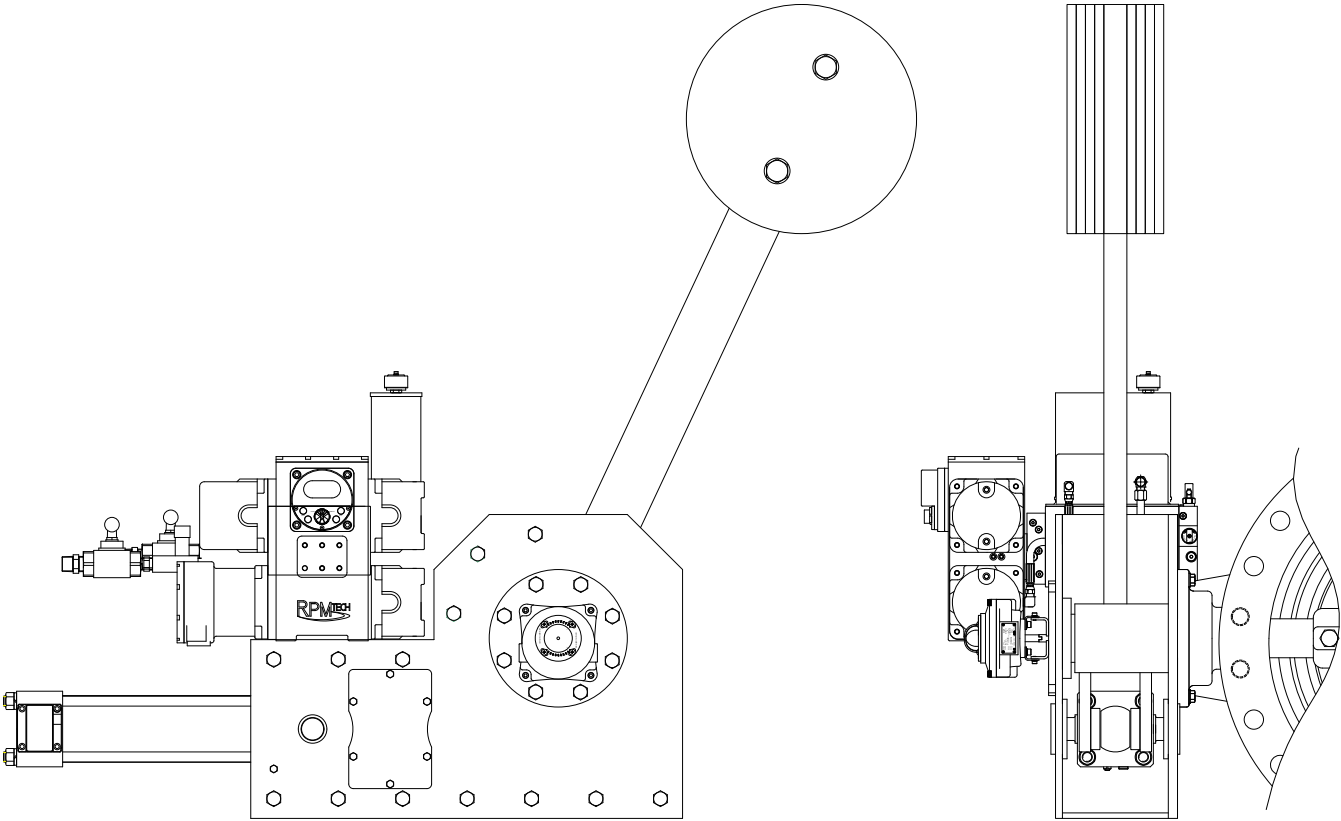
Code	Fail-Safe Direction
O	Fail-Safe Open
C	Fail-Safe Close

- 10** Torque¹

Code	Torque	
	Nm	lb ft
0006	600	443
0011	1,100	811
0022	2,200	1,623
0050	5,000	3,688
0090	9,000	6,638
0160	16,000	11,801
0320	32,000	23,602

- Contact for higher torque
- Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
- Refer to Page 5: Advanced Control Modes
- Contact for other communication platforms
- Operation time is configurable (contact RPMTECH)

DHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator



Dimensions of the DHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator

Model	Dimensions
...	Contact for Dimensions
...	
...	

MHP Electro-Hydraulic Linear Valve Actuator



Mechanical	Thrust	5,000 N ~ 400,000 N ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access

1		2		3	4	5	6		7	8		9	10			11				
M	H	P					1	0		L	N	N					-			

Model Number

1 Power-pack²

MHP (Micro Hydraulic Power-pack)

2 Enclosure

Code	Enclosure
W	IP 68 Water-proof
X	Exd II B T4 Explosion-proof

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

4 Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
M	○	○	-	○	-	-

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

6 Resolution

Code	Resolution
10	Default: 1% (±0.5%)

7 Operating Speed

Speed Range (mm/s)	Code		
	1	2	3
5,000	3.32~16.58	6.63~33.16	9.95~49.74
10,000	3.32~16.58	6.63~33.16	9.95~39.79
20,000	1.34~6.68	2.67~13.37	4.01~20.05
40,000	0.83~4.14	1.66~8.29	2.49~9.95
60,000	0.53~2.65	1.06~5.31	1.59~6.37
80,000	0.34~1.70	0.68~3.40	1.02~5.09
100,000	0.34~1.70	0.68~3.40	1.02~4.07
200,000	0.16~0.82	0.33~1.64	0.49~1.96
300,000	0.08~0.42	0.17~0.85	0.25~1.27
400,000	0.08~0.42	0.17~0.85	0.25~1.02

8 Fail-Safe Method

Code	Fail-Safe
LN	Linear (Not Fail-Safe)

9 Fail-Safe Direction

Code	Fail-Safe Direction
N	Not Fail-Safe

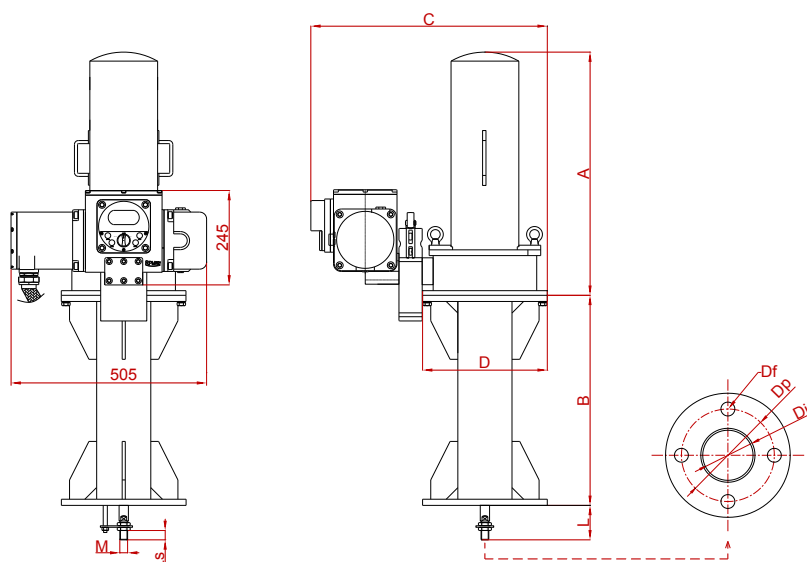
10 Thrust¹

Code	Thrust	
	N	lbf
0005	5,000	1,124
0010	10,000	2,248
0020	20,000	4,496
0040	40,000	8,992
0060	60,000	13,488
0080	80,000	17,984
0100	100,000	22,480
0200	200,000	44,961
0300	300,000	67,442
0400	400,000	89,923

11 Stroke

Code	Stroke
010~990	Code × 10 mm

1. Contact for higher thrust
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms

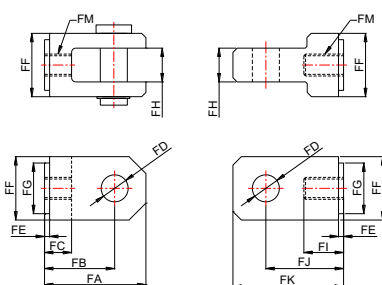


Dimensions of the MHP Electro-Hydraulic Linear Valve Actuator

Model		Dimensions (mm)										
		A	B	C	D	L	LS	M	ΦDi	ΦDf	# of Df	ΦDp
Single-Phase Power	MHP _____ LNN0005 -	241+B	Stroke (mm)	537	250	55	25	M16 x 1.5	132	11	4	175
	MHP _____ LNN0010 -	241+B		537	250	55	25	M16 x 1.5	132	11	4	175
	MHP _____ LNN0020 -	263+B		587	300	68	35	M24 x 1.5	156	18	4	240
	MHP _____ LNN0040 -	284+B		587	300	78	45	M30 x 1.5	156	18	4	240
	MHP _____ LNN0060 -	292+B		687	400	96	60	M39 x 1.5	255	26	4	330
	MHP _____ LNN0080 -	320+B		687	400	115	75	M48 x 1.5	255	26	6	330
	MHP _____ LNN0100 -	320+B		687	400	115	75	M48 x 1.5	255	26	6	330
	MHP _____ LNN0200 -	375+B		787	500	155	110	M72 x 1.5	390	26	8	450
	MHP _____ LNN0300 -	415+B		887	600	180	130	M95 x 2.0	520	32	8	560
	MHP _____ LNN0400 -	551+B		887	600	210	150	M100 x 2.0	520	32	8	560

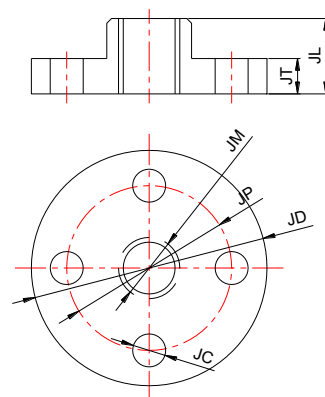
Dimensions for Knuckles for Valve Connection: Y-Knuckle (Left) and I-Knuckle (Right)

Model		Dimensions (mm)											
		FA	FB	FC	ΦFD	FE	FF	ΦFG	FH	FI	FJ	FK	FM
MHP	LNN0005 -	70	50	20	20	5	40	32	20	20	50	100	M16 x 1.5
MHP	LNN0010 -	80	56	20	24	5	48	32	24	30	56	116	M16 x 1.5
MHP	LNN0020 -	110	78	30	32	5	64	48	32	40	70	150	M24 x 1.5
MHP	LNN0040 -	140	100	40	40	5	80	60	40	50	110	210	M30 x 1.5
MHP	LNN0060 -	180	130	55	50	7	100	78	50	70	145	270	M39 x 1.5
MHP	LNN0080 -	245	175	70	70	7	140	96	70	80	185	360	M48 x 1.5
MHP	LNN0100 -	270	190	70	80	7	160	96	80	90	210	410	M48 x 1.5
MHP	LNN0200 -	330	240	105	90	10	180	144	90	120	255	480	M72 x 1.5
MHP	LNN0300 -	410	300	135	110	10	220	190	110	150	315	590	M95 x 2.0
MHP	LNN0400 -	470	340	145	130	10	260	200	130	160	355	680	M100 x 2.0



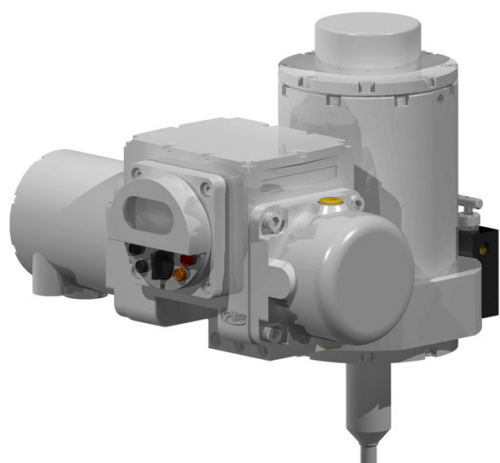
Flange Dimensions

Model		Dimensions (mm)						
		ΦJD	ΦJP	ΦJC	# of ΦJC	JL	JT	JM
MHP _____	LNN0005 -	115	80	19	4	24	20	M16 x 1.5
MHP _____	LNN0010 -	120	85	19	4	24	20	M16 x 1.5
MHP _____	LNN0020 -	130	95	19	4	26	22	M24 x 1.5
MHP _____	LNN0040 -	140	105	19	4	30	24	M30 x 1.5
MHP _____	LNN0060 -	160	120	23	4	30	24	M39 x 1.5
MHP _____	LNN0080 -	165	130	19	8	32	26	M48 x 1.5
MHP _____	LNN0100 -	165	130	19	8	32	26	M48 x 1.5
MHP _____	LNN0200 -	210	170	23	8	40	32	M72 x 1.5
MHP _____	LNN0300 -	250	205	25	8	46	36	M95 x 2.0
MHP _____	LNN0400 -	250	205	25	8	46	36	M100 x 2.0

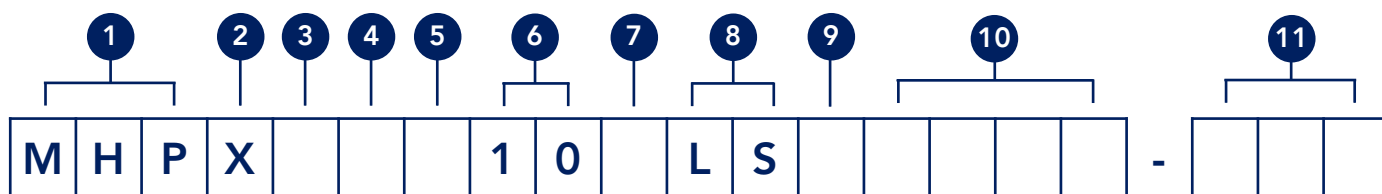


MHP Spring-Return Electro-Hydraulic Linear Valve Actuator

✓ Fail-Safe



Mechanical	Thrust	5,000 N ~ 700,000 N ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) NPT 3/4
	DI/O	(CENTER) NPT 1
	AI/O	(LEFT) NPT 3/4
Safety	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access



Model Number

1 Power-pack²

MHP (Micro Hydraulic Power-pack)

2 Enclosure

Code	Enclosure
X	Exd II B T4 Explosion-proof

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

4 Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
M	○	○	-	○	-	-

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

6 Resolution

Code	Resolution
10	Default: 1% (+0.5%)

7 Operating Speed⁵

Speed Range (mm/s)		Code
Thrust (N)	5,000	4
	10,000	Emergency Fail-Close in less than 10 seconds (Damping effect included to absorb water hammering)
	20,000	
	40,000	
	60,000	
	80,000	
	100,000	
	200,000	
	300,000	
400,000		

8 Fail-Safe Method

Code	Fail-Safe
LS	Linear Spring-Return Cylinder

9 Fail-Safe Direction

Code	Fail-Safe Direction
O	Fail-Safe Open
C	Fail-Safe Close

10 Thrust¹

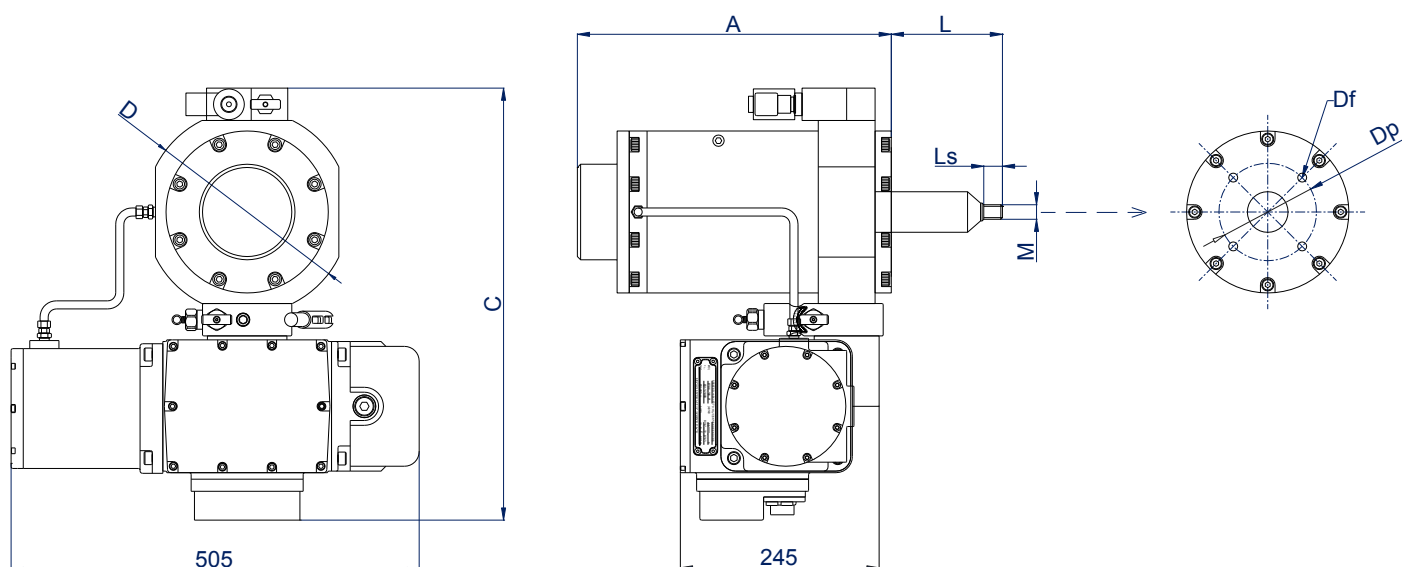
Code	Thrust	
	N	lbf
0005	5,000	1,124
0010	10,000	2,248
0020	15,000	3,372
0040	30,000	6,744
0060	50,000	11,240
0080	80,000	17,984
0100	100,000	22,480
0150	150,000	33,721
0200	200,000	44,961
0300	300,000	67,442
0400	400,000	89,923
0500	500,000	112,404
0600	600,000	134,885
0700	700,000	157,366

11 Stroke

Code	Stroke
010~990	Code × 1 mm

1. Contact for higher thrust
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms
5. Operation speed is configurable (contact RPMTECH)

MHP Spring-Return Electro-Hydraulic Linear Valve Actuator

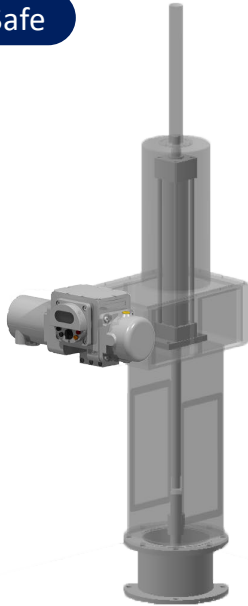


Dimensions of the MHP Spring-Return Electro-Hydraulic Linear Valve Actuator

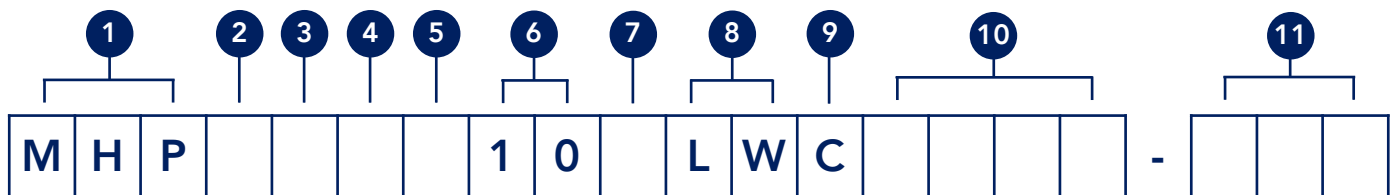
Model	A (by stroke) (mm)										C (mm)	D (mm)	L (mm)	Ls (mm)	M	ΦDs (mm)	ΦDf (mm)	#of Df	ΦDp (mm)
	25	50	75	100	125	150	175	200	250	300									
MHPX_ _ _ _ _ LS_0005	310	443	576	709	842	975	1,108	1,241	1,507	1,773	468	190	106	25	M14x1.5	50	7	4	100
MHPX_ _ _ _ _ LS_0010	333	477	621	765	909	1,053	1,197	1,341	1,629	1,917	498	220	115	30	M16x1.5	63	9	4	110
MHPX_ _ _ _ _ LS_0015	354	509	664	819	974	1,129	1,284	1,439	1,749	2,059	528	250	124	35	M24x1.5	80	11	4	120
MHPX_ _ _ _ _ LS_0030	364	505	646	787	928	1,069	1,210	1,351	1,633	1,915	618	340	135	40	M30x1.5	110	13	4	160
MHPX_ _ _ _ _ LS_0050	423	582	741	900	1,059	1,218	1,377	1,536	1,854	2,172	758	480	146	45	M48x1.5	180	17	4	240
MHPX_ _ _ _ _ LS_0080	438	601	764	927	1,090	1,253	1,416	1,579	1,905	2,231	758	480	159	50	M56x2.0	180	22	4	240
MHPX_ _ _ _ _ LS_0100	455	626	797	968	1,139	1,310	1,481	1,652	1,994	2,336	758	480	177	60	M72x2.0	180	26	4	240
MHPX_ _ _ _ _ LS_0150	464	621	778	935	1,092	1,249	1,406	1,563	1,877	2,191	938	660	190	65	M95x2.0	250	22	8	320
MHPX_ _ _ _ _ LS_0200	483	654	825	996	1,167	1,338	1,509	1,680	2,022	2,364	938	660	205	70	M100x2.0	250	26	8	320
MHPX_ _ _ _ _ LS_0300	490	607	724	841	958	1,075	1,192	1,309	1,543	1,777	1128	850	227	80	M110x2.0	320	32	8	400
MHPX_ _ _ _ _ LS_0400	547	710	873	1,036	1,199	1,362	1,525	1,688	2,014	2,340	1,128	850	244	85	M120x2.0	320	38	8	400
MHPX_ _ _ _ _ LS_0500	560	723	886	1,049	1,212	1,375	1,538	1,701	2,027	2,353	1,128	850	261	90	M130x2.0	320	44	8	400
MHPX_ _ _ _ _ LS_0600	619	828	1,037	1,246	1,455	1,664	1,873	2,082	2,500	2,918	1,128	850	286	100	M140x2.0	320	50	8	400
MHPX_ _ _ _ _ LS_0700	629	837	1,045	1,253	1,461	1,669	1,877	2,085	2,501	2,917	1,128	850	317	110	M150x2.0	320	58	8	400

MHP Emergency-Close Electro-Hydraulic Linear Valve Actuator

✓ Fail-Safe



Mechanical	Thrust	5,000 N ~ 400,000 N ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 μm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access



Model Number

- 1** Power-pack²
MHP (Micro Hydraulic Power-pack)

- 2** Enclosure

Code	Enclosure
W	IP 68 Water-proof
X	Exd II B T4 Explosion-proof

- 3** Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

- 4** Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
M	○	○	-	○	-	-

- 5** Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

- 6** Resolution

Code	Resolution
10	Default: 1% (±0.5%)

- 7** Operating Speed⁵

Speed Range (mm/s)	Code		
	1	2	3
5,000	3.32~16.58	6.63~33.16	9.95~49.74
10,000	3.32~16.58	6.63~33.16	9.95~39.79
20,000	1.34~6.68	2.67~13.37	4.01~20.05
40,000	0.83~4.14	1.66~8.29	2.49~9.95
60,000	0.53~2.65	1.06~5.31	1.59~6.37
80,000	0.34~1.70	0.68~3.40	1.02~5.09
100,000	0.34~1.70	0.68~3.40	1.02~4.07
200,000	0.16~0.82	0.33~1.64	0.49~1.96
300,000	0.08~0.42	0.17~0.85	0.25~1.27
400,000	0.08~0.42	0.17~0.85	0.25~1.02

- 8** Fail-Safe Method

Code	Fail-Safe
LW	Linear Self-Weight-Close

- 9** Fail-Safe Direction

Code	Fail-Safe Direction
C	Fail-Safe Close

- 10** Thrust¹

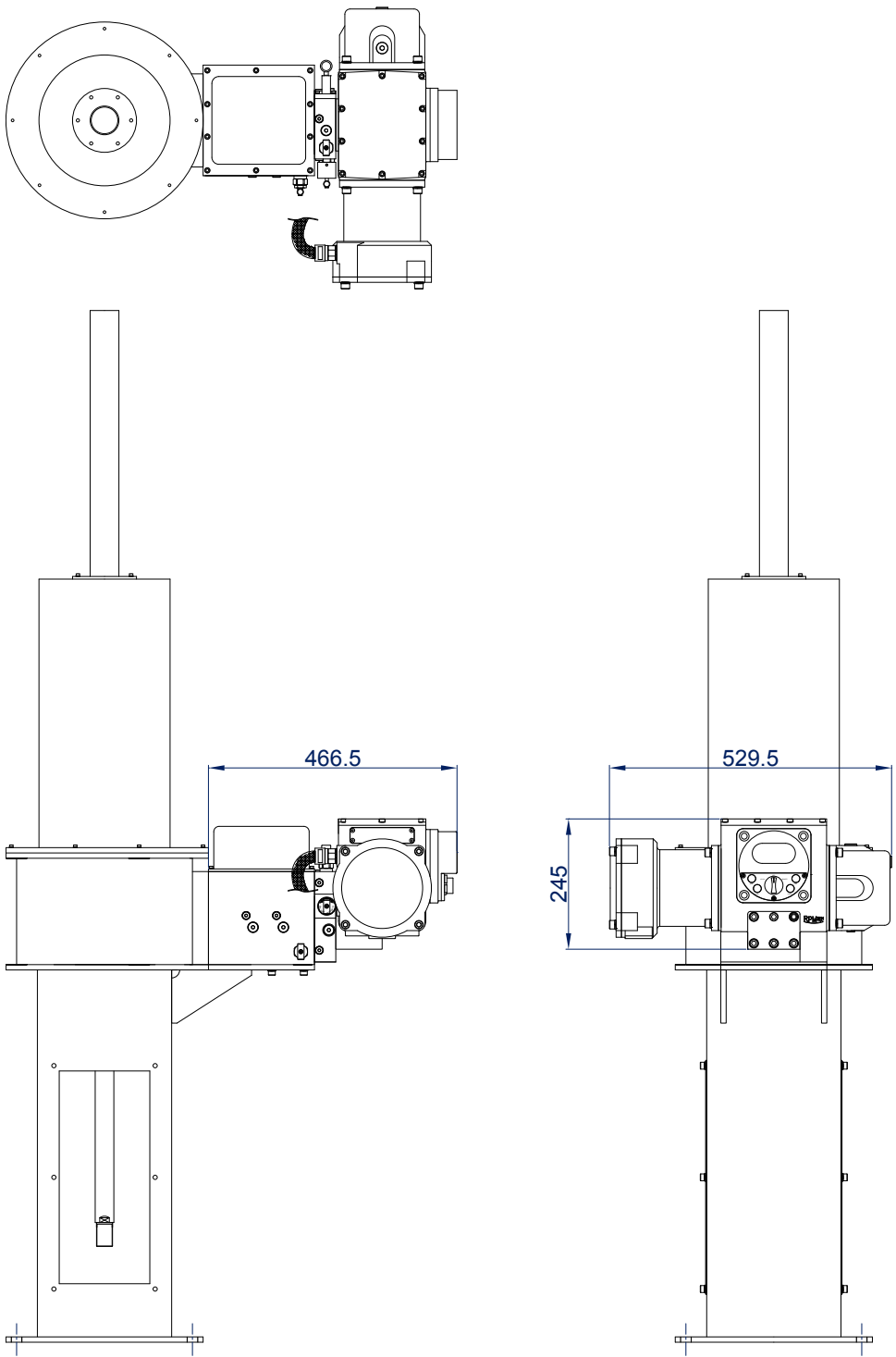
Code	Thrust	
	N	lbf
0005	5,000	1,124
0010	10,000	2,248
0020	20,000	4,496
0040	40,000	8,992
0060	60,000	13,488
0080	80,000	17,984
0100	100,000	22,480
0200	200,000	44,961
0300	300,000	67,442
0400	400,000	89,923

- 11** Stroke

Code	Stroke
010~990	Code × 10 mm

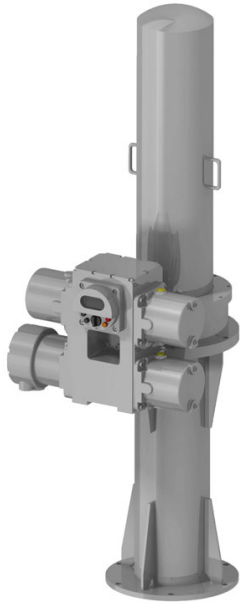
1. Contact for higher thrust
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms
5. Contact for specific Emergency Open/Close time.

MHP Emergency-Close Electro-Hydraulic Linear Valve Actuator

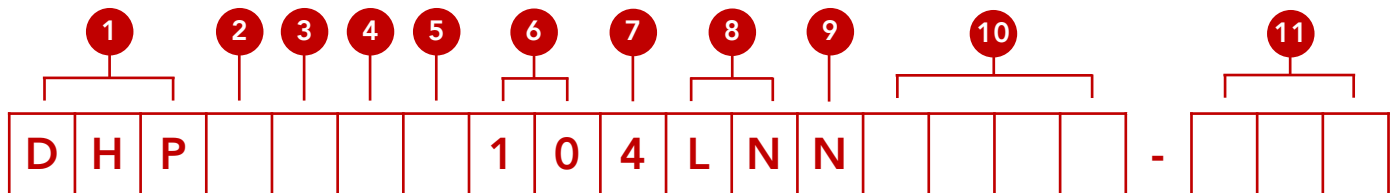


Dimensions of the MHP Emergency-Close Electro-Hydraulic Linear Valve Actuator	
Model	Dimensions
...	Contact for Dimensions
...	
...	

DHP Electro-Hydraulic Linear Valve Actuator



Mechanical	Thrust	5,000 N ~ 400,000 N ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access



Model Number

1 Power-pack²

DHP (Dual Hydraulic Power-pack)

2 Enclosure

Code	Enclosure
W	IP 68 Water-proof
X	Exd II B T4 Explosion-proof

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

4 Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
M	○	○	-	○	-	-

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

6 Resolution

Code	Resolution
10	Default: 1% (±0.5%)

7 Operating Speed

	Speed Range (mm/s)	Code
		4
Thrust (N)	5,000	13.36~66.31
	10,000	13.36~66.31
	20,000	5.35~26.73
	40,000	3.22~16.58
	60,000	2.12~10.61
	80,000	1.36~6.79
	100,000	1.36~6.79
	200,000	0.65~3.27
	300,000	0.34~1.70
	400,000	0.34~1.70

8 Fail-Safe Method

Code	Fail-Safe
LN	Linear (Not Fail-Safe)

9 Fail-Safe Direction

Code	Fail-Safe Direction
N	Not Fail-Safe

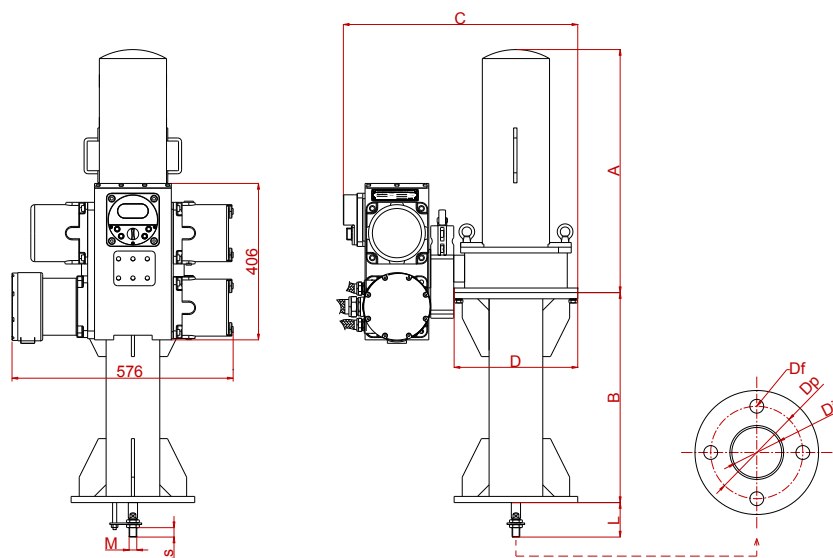
10 Thrust¹

Code	Thrust	
	N	lbf
0005	5,000	1,124
0010	10,000	2,248
0020	20,000	4,496
0040	40,000	8,992
0060	60,000	13,488
0080	80,000	17,984
0100	100,000	22,480
0200	200,000	44,961
0300	300,000	67,442
0400	400,000	89,923

11 Stroke

Code	Stroke
010~990	Code × 10 mm

1. Contact for higher thrust
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms

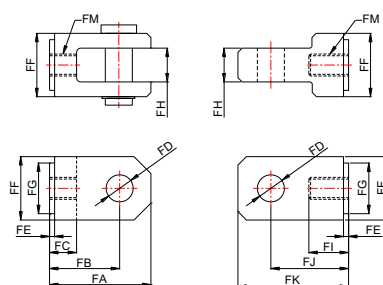


Dimensions of the MHP Electro-Hydraulic Linear Valve Actuator

Model		Dimensions (mm)										
		A	B	C	D	L	LS	M	ΦDi	ΦDf	# of Df	ΦDp
Single-Phase Power	MHP _____ LNN0005 -	241+B	Stroke (mm)	538	250	55	25	M16 x 1.5	132	11	4	175
	MHP _____ LNN0010 -	241+B		538	250	55	25	M16 x 1.5	132	11	4	175
	MHP _____ LNN0020 -	263+B		588	300	68	35	M24 x 1.5	156	18	4	240
	MHP _____ LNN0040 -	284+B		588	300	78	45	M30 x 1.5	156	18	4	240
	MHP _____ LNN0060 -	292+B		688	400	96	60	M39 x 1.5	255	26	4	330
	MHP _____ LNN0080 -	320+B		688	400	115	75	M48 x 1.5	255	26	6	330
	MHP _____ LNN0100 -	320+B		688	400	115	75	M48 x 1.5	255	26	6	330
	MHP _____ LNN0200 -	375+B		788	500	155	110	M72 x 1.5	390	26	8	450
	MHP _____ LNN0300 -	415+B		888	600	180	130	M95 x 2.0	520	32	8	560
	MHP _____ LNN0400 -	551+B		888	600	210	150	M100 x 2.0	520	32	8	560

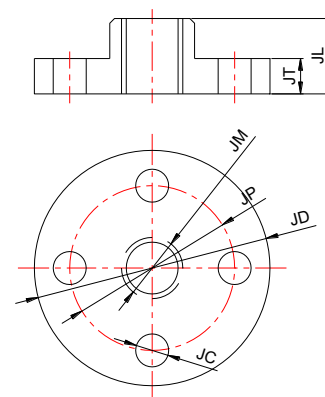
Dimensions for Knuckles for Valve Connection: Y-Knuckle (Left) and I-Knuckle (Right)

Model	Dimensions (mm)											
	FA	FB	FC	ΦFD	FE	FF	ΦFG	FH	FI	FJ	FK	FM
MHP _____ LNN0005 -	70	50	20	20	5	40	32	20	20	50	100	M16 x 1.5
MHP _____ LNN0010 -	80	56	20	24	5	48	32	24	30	56	116	M16 x 1.5
MHP _____ LNN0020 -	110	78	30	32	5	64	48	32	40	70	150	M24 x 1.5
MHP _____ LNN0040 -	140	100	40	40	5	80	60	40	50	110	210	M30 x 1.5
MHP _____ LNN0060 -	180	130	55	50	7	100	78	50	70	145	270	M39 x 1.5
MHP _____ LNN0080 -	245	175	70	70	7	140	96	70	80	185	360	M48 x 1.5
MHP _____ LNN0100 -	270	190	70	80	7	160	96	80	90	210	410	M48 x 1.5
MHP _____ LNN0200 -	330	240	105	90	10	180	144	90	120	255	480	M72 x 1.5
MHP _____ LNN0300 -	410	300	135	110	10	220	190	110	150	315	590	M95 x 2.0
MHP _____ LNN0400 -	470	340	145	130	10	260	200	130	160	355	680	M100 x 2.0



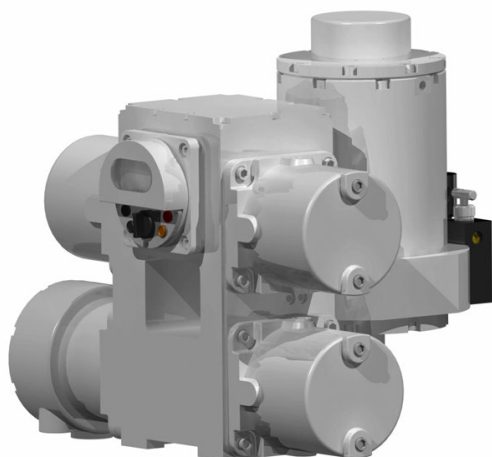
Flange Dimensions

Model	Dimensions (mm)						
	ΦJD	ΦJP	ΦJC	# of ΦJC	JL	JT	JM
MHP _____ LNN0005 -	115	80	19	4	24	20	M16 x 1.5
MHP _____ LNN0010 -	120	85	19	4	24	20	M16 x 1.5
MHP _____ LNN0020 -	130	95	19	4	26	22	M24 x 1.5
MHP _____ LNN0040 -	140	105	19	4	30	24	M30 x 1.5
MHP _____ LNN0060 -	160	120	23	4	30	24	M39 x 1.5
MHP _____ LNN0080 -	165	130	19	8	32	26	M48 x 1.5
MHP _____ LNN0100 -	165	130	19	8	32	26	M48 x 1.5
MHP _____ LNN0200 -	210	170	23	8	40	32	M72 x 1.5
MHP _____ LNN0300 -	250	205	25	8	46	36	M95 x 2.0
MHP _____ LNN0400 -	250	205	25	8	46	36	M100 x 2.0

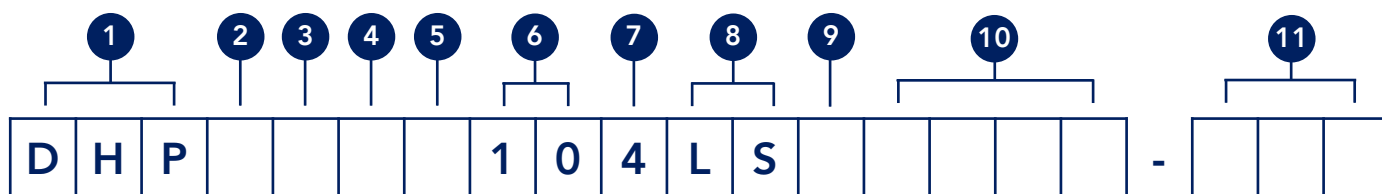


DHP Spring-Return Electro-Hydraulic Linear Valve Actuator

✓ Fail-Safe



Mechanical	Thrust	500 Nm ~ 700,000 Nm ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 μm
Cable Entry	Power	(RIGHT) NPT 3/4
	DI/O	(CENTER) NPT 1
	AI/O	(LEFT) NPT 3/4
Safety	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access



Model Number

1 Power-pack²

DHP (Dual Hydraulic Power-pack)

2 Enclosure

Code	Enclosure
X	Exd II B T4 Explosion-proof

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

4 Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
M	○	○	-	○	-	-

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

6 Resolution

Code	Resolution
10	Default: 1% (+0.5%)

7 Operating Speed⁵

Speed Range (mm/s)		Code
Thrust (N)	5,000	4
	10,000	Emergency Fail-Close in less than 10 seconds (Damping effect included to absorb water hammering)
	20,000	
	40,000	
	60,000	
	80,000	
	100,000	
	200,000	
	300,000	
	400,000	

8 Fail-Safe Method

Code	Fail-Safe
LS	Linear Spring-Return Cylinder

9 Fail-Safe Direction

Code	Fail-Safe Direction
O	Fail-Safe Open
C	Fail-Safe Close

10 Thrust¹

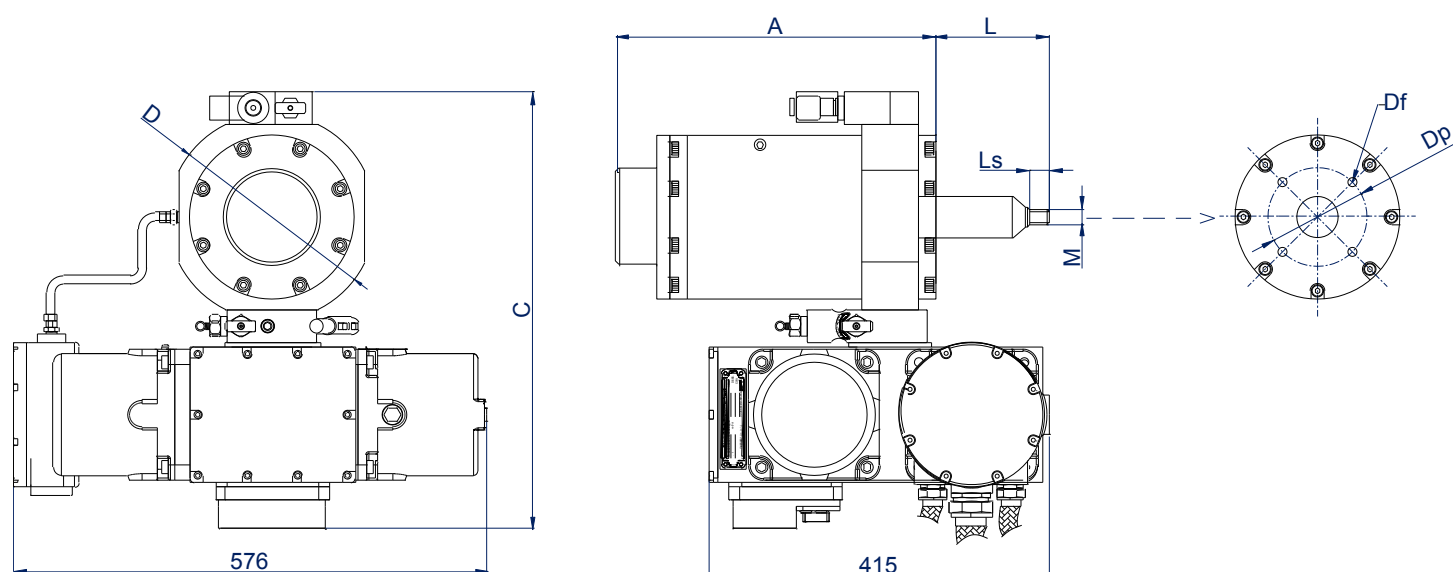
Code	Thrust	
	N	lbf
0005	5,000	1,124
0010	10,000	2,248
0020	15,000	3,372
0040	30,000	6,744
0060	50,000	11,240
0080	80,000	17,984
0100	100,000	22,480
0150	150,000	33,721
0200	200,000	44,961
0300	300,000	67,442
0400	400,000	89,923
0500	500,000	112,404
0600	600,000	134,885
0700	700,000	157,366

11 Stroke

Code	Stroke
010~990	Code × 1 mm

1. Contact for higher thrust
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms
5. Operation speed is configurable (contact RPMTECH)

DHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator

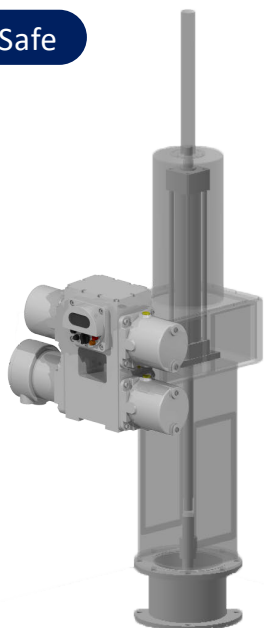


Dimensions of the MHP Spring-Return Electro-Hydraulic Linear Valve Actuator

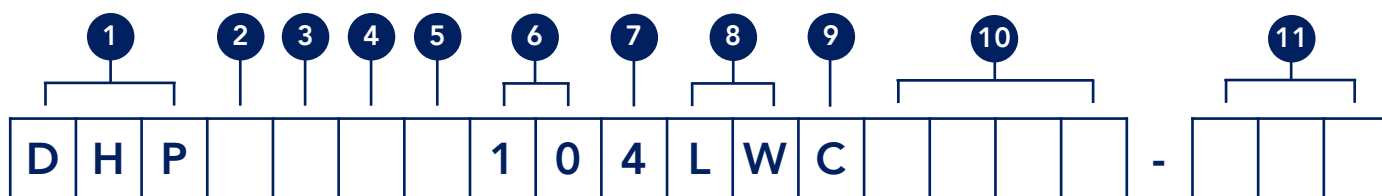
Model	A (by stroke) (mm)										C (mm)	D (mm)	L (mm)	Ls (mm)	M	ΦDs (mm)	ΦDf (mm)	#of Df	ΦDp (mm)
	25	50	75	100	125	150	175	200	250	300									
DHPX _____ LS_0005-	310	443	576	709	842	975	1,108	1,241	1,507	1,773	519	190	106	25	M14x1.5	50	7	4	100
DHPX _____ LS_0010-	333	477	621	765	909	1,053	1,197	1,341	1,629	1,917	549	220	115	30	M16x1.5	63	9	4	110
DHPX _____ LS_0015-	354	509	664	819	974	1,129	1,284	1,439	1,749	2,059	579	250	124	35	M24x1.5	80	11	4	120
DHPX _____ LS_0030-	364	505	646	787	928	1,069	1,210	1,351	1,633	1,915	669	340	135	40	M30x1.5	110	13	4	160
DHPX _____ LS_0050-	423	582	741	900	1,059	1,218	1,377	1,536	1,854	2,172	809	480	146	45	M48x1.5	180	17	4	240
DHPX _____ LS_0080-	438	601	764	927	1,090	1,253	1,416	1,579	1,905	2,231	809	480	159	50	M56x2.0	180	22	4	240
DHPX _____ LS_0100-	455	626	797	968	1,139	1,310	1,481	1,652	1,994	2,336	809	480	177	60	M72x2.0	180	26	4	240
DHPX _____ LS_0150-	464	621	778	935	1,092	1,249	1,406	1,563	1,877	2,191	989	660	190	65	M95x2.0	250	22	8	320
DHPX _____ LS_0200-	483	654	825	996	1,167	1,338	1,509	1,680	2,022	2,364	989	660	205	70	M100x2.0	250	26	8	320
DHPX _____ LS_0300-	490	607	724	841	958	1,075	1,192	1,309	1,543	1,777	1,179	850	227	80	M110x2.0	320	32	8	400
DHPX _____ LS_0400-	547	710	873	1,036	1,199	1,362	1,525	1,688	2,014	2,340	1,179	850	244	85	M120x2.0	320	38	8	400
DHPX _____ LS_0500-	560	723	886	1,049	1,212	1,375	1,538	1,701	2,027	2,353	1,179	850	261	90	M130x2.0	320	44	8	400
DHPX _____ LS_0600-	619	828	1,037	1,246	1,455	1,664	1,873	2,082	2,500	2,918	1,179	850	286	100	M140x2.0	320	50	8	400
DHPX _____ LS_0700-	629	837	1,045	1,253	1,461	1,669	1,877	2,085	2,501	2,917	1,179	850	317	110	M150x2.0	320	58	8	400

DHP Emergency-Close Electro-Hydraulic Quarter-Turn Valve Actuator

✓ Fail-Safe



Mechanical	Thrust	5,000 N ~ 400,000 N ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 μm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access



Model Number

1 Power-pack²

DHP (Dual Hydraulic Power-pack)

2 Enclosure

Code	Enclosure
W	IP 68 Water-proof
X	Exd II B T4 Explosion-proof

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

4 Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
M	○	○	-	○	-	-

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

6 Resolution

Code	Resolution
10	Default: 1% ($\pm 0.5\%$)

7 Operating Speed⁵

Speed Range (mm/s)		Code
		4
Thrust (N)	5,000	13.36~66.31
	10,000	13.36~66.31
	20,000	5.35~26.73
	40,000	3.22~16.58
	60,000	2.12~10.61
	80,000	1.36~6.79
	100,000	1.36~6.79
	200,000	0.65~3.27
	300,000	0.34~1.70
400,000	0.34~1.70	

8 Fail-Safe Method

Code	Fail-Safe
LW	Linear Self-Weight-Close

9 Fail-Safe Direction

Code	Fail-Safe Direction
C	Fail-Safe Close

10 Thrust¹

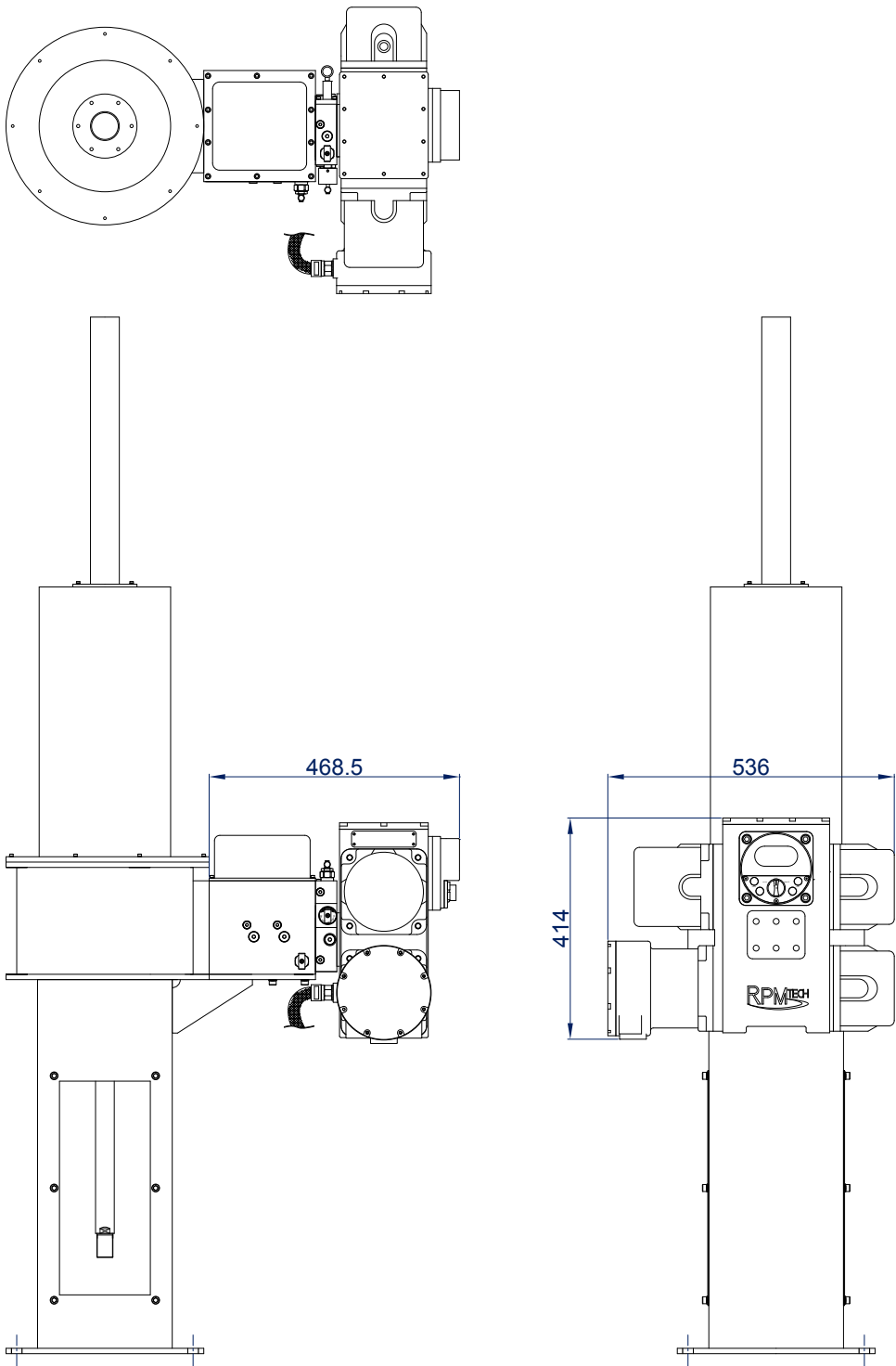
Code	Thrust	
	N	lbf
0005	5,000	1,124
0010	10,000	2,248
0020	20,000	4,496
0040	40,000	8,992
0060	60,000	13,488
0080	80,000	17,984
0100	100,000	22,480
0200	200,000	44,961
0300	300,000	67,442
0400	400,000	89,923

11 Stroke

Code	Stroke
010~990	Code × 10 mm

1. Contact for higher thrust
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms
5. Contact for specific Emergency Open/Close time.

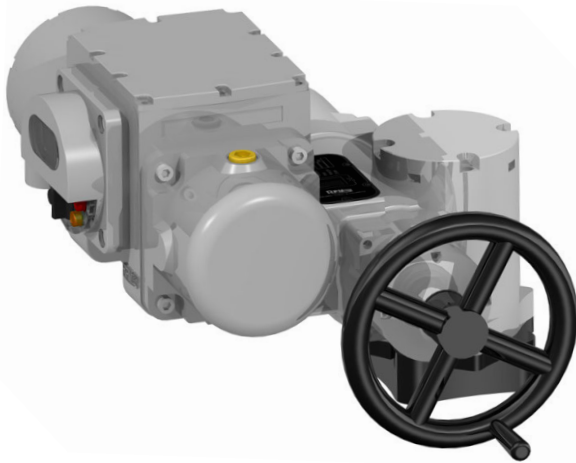
DHP Emergency-Close Electro-Hydraulic Linear Valve Actuator



Dimensions of the DHP Emergency-Close Electro-Hydraulic Linear Valve Actuator

Model	Dimensions
...	Contact for Dimensions
...	
...	

MHP Electro-Hydraulic Multi-Turn Valve Actuator



Mechanical	Torque	90 Nm ~ 420 Nm ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Mechanical	Stroke Limit
	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access

1	2	3	4	5	6	7	8	9	10							
M	H	P	W				1	0	2	M	N	N				

Model Number

1 Power-pack²

MHP (Micro Hydraulic Power-pack)

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

8 Fail-Safe Method

Code	Fail-Safe
MN	Multi-Turn (Not Fail-Safe)

2 Enclosure

Code	Enclosure
W	IP 68 Water-proof

6 Resolution

Code	Resolution
10	Default: 1% (±0.5%)

9 Fail-Safe Direction

Code	Fail-Safe Direction
N	Not Fail-Safe

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

4 Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
M	○	○	-	○	-	-

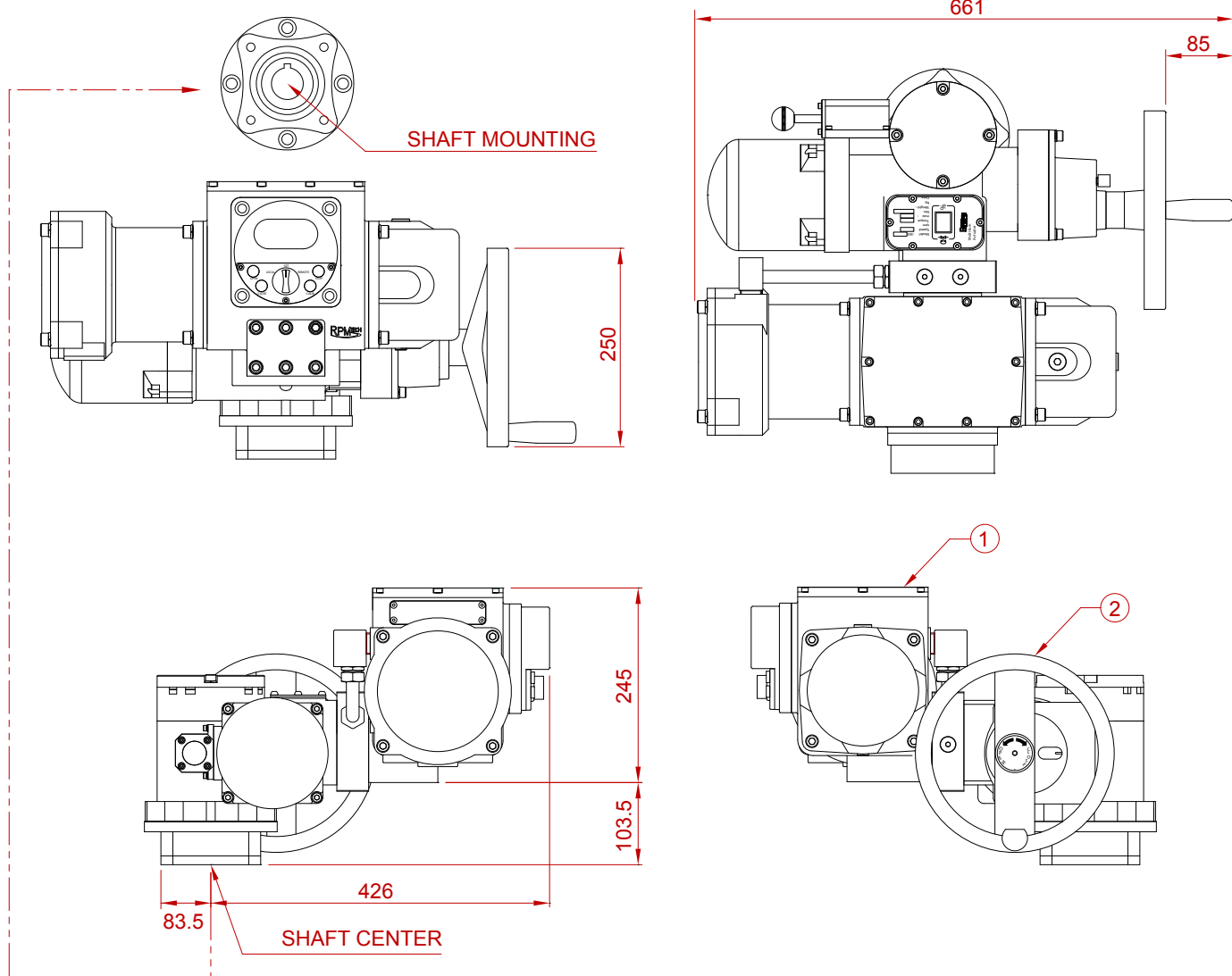
7 Operating Speed

Speed (rpm)		Code
		2
Torque (Nm)	90	25.0
	120	16.7
	180	12.5
	250	8.3
	300	6.3
	420	4.1

10 Torque¹

Code	Torque	
	Nm	lb ft
0009	90	66
0012	120	88
0018	180	132
0025	250	184
0030	300	221
0042	420	309

1. Contact for higher torque
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms

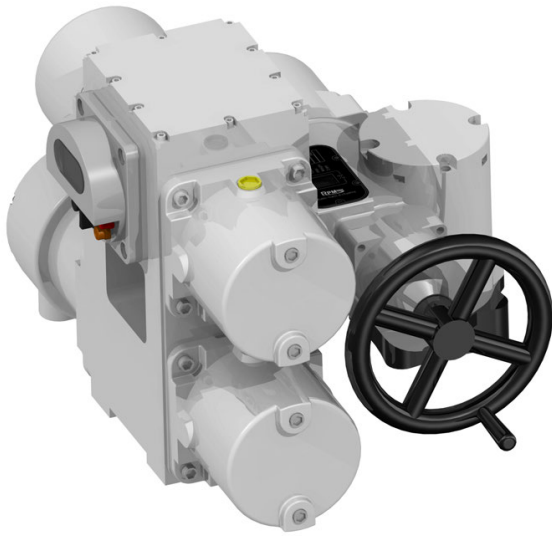


① HYDRAULIC POWER UNIT

② MANUAL HAND PUMP

Dimensions of the MHP Electro-Hydraulic Multi-Turn Valve Actuator	
Model	Dimensions
...	Dimensions are identical for all models
...	
...	

DHP Electro-Hydraulic Multi-Turn Valve Actuator



Mechanical	Torque	90 Nm ~ 420 Nm ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 µm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Mechanical	Stroke Limit
	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access

1	2	3	4	5	6	7	8	9	10							
D	H	P	W				1	0	4	M	N	N				

Model Number

- 1 Power-pack²**
DHP (Dual Hydraulic Power-pack)

- 5 Communication⁴**

Code	Communication
N	AIO/DIO
P	Profibus

- 8 Fail-Safe Method**

Code	Fail-Safe
MN	Multi-Turn (Not Fail-Safe)

- 2 Enclosure**

Code	Enclosure
W	IP 68 Water-proof

- 6 Resolution**

Code	Resolution
10	Default: 1% (±0.5%)

- 9 Fail-Safe Direction**

Code	Fail-Safe Direction
N	Not Fail-Safe

- 3 Power**

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

- 4 Advanced Control Modes³**

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
M	○	○	-	○	-	-

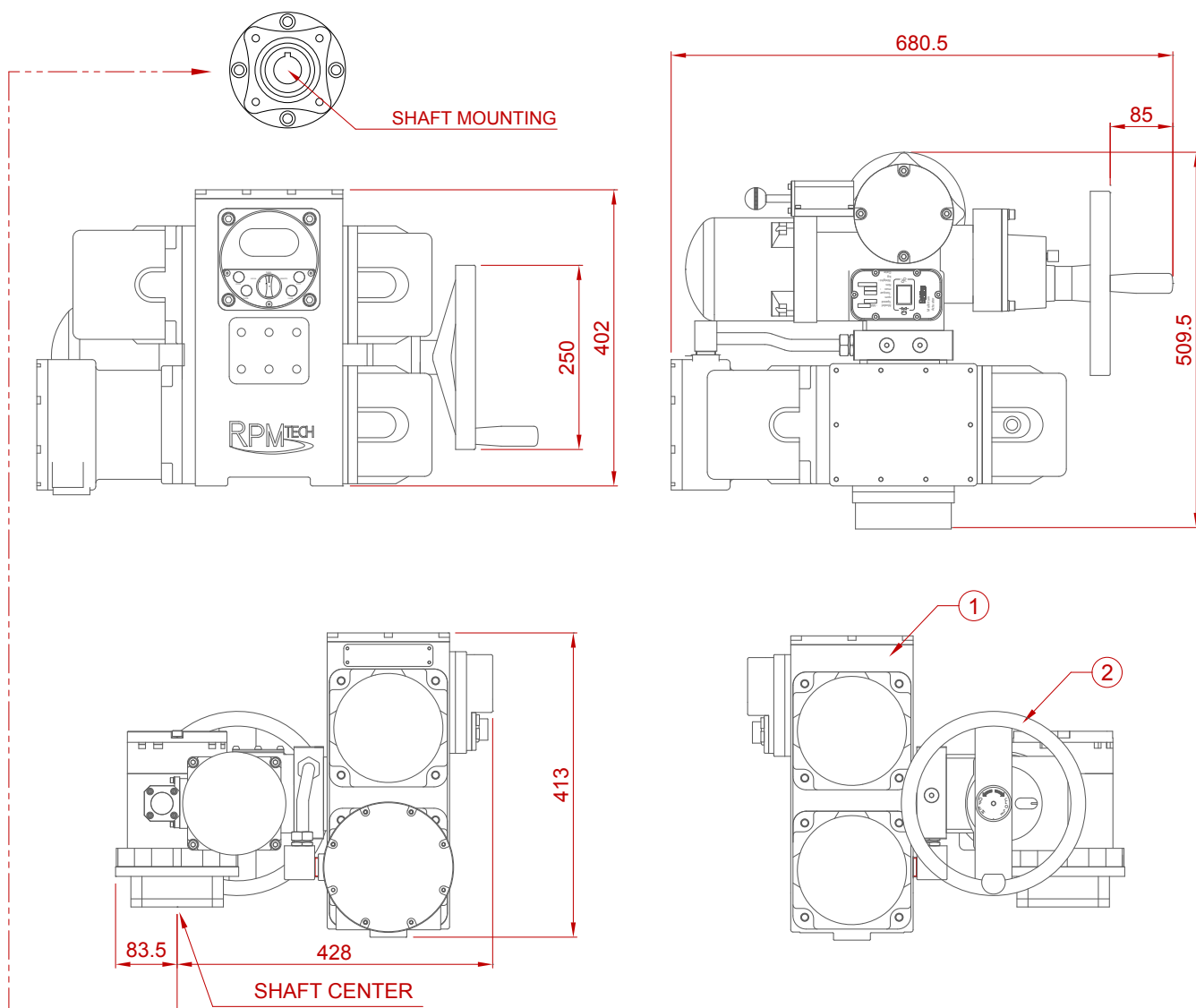
- 7 Operating Speed**

Speed (rpm)		Code
		4
Torque (Nm)	90	50.0
	120	33.4
	180	25.0
	250	16.6
	300	12.6
	420	8.2

- 10 Torque¹**

Code	Torque	
	Nm	lb ft
0009	90	66
0012	120	88
0018	180	132
0025	250	184
0030	300	221
0042	420	309

1. Contact for higher torque
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms

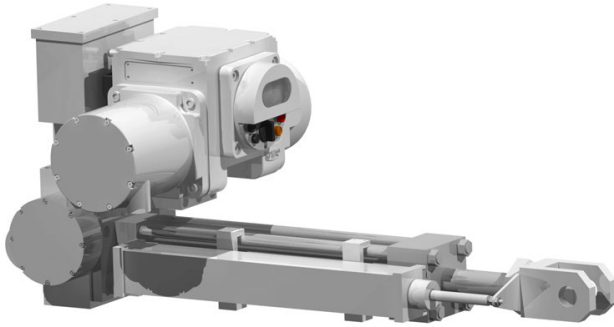


① HYDRAULIC POWER UNIT

② MANUAL HAND PUMP

Dimensions of the DHP Electro-Hydraulic Multi-Turn Valve Actuator	
Model	Dimensions
...	Dimensions are identical for all models
...	
...	

MHP Electro-Hydraulic Power Cylinder



Mechanical	Thrust	5,000 N ~ 400,000 N ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 μm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access

1		2		3	4	5	6		7	8		9	10			11				
M	H	P					1	0		C	N	N					-			

Model Number

1 Power-pack²

DHP (Dual Hydraulic Power-pack)

2 Enclosure

Code	Enclosure
W	IP 68 Water-proof
X	Exd II B T4 Explosion-proof

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

4 Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
M	○	○	-	○	-	-

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

6 Resolution

Code	Resolution
10	Default: 1% (±0.5%)

7 Operating Speed

Speed Range (mm/s)	Code		
	1	2	3
5,000	3.32~16.58	6.63~33.16	9.95~49.74
10,000	3.32~16.58	6.63~33.16	9.95~39.79
20,000	1.34~6.68	2.67~13.37	4.01~20.05
40,000	0.83~4.14	1.66~8.29	2.49~9.95
60,000	0.53~2.65	1.06~5.31	1.59~6.37
80,000	0.34~1.70	0.68~3.40	1.02~5.09
100,000	0.34~1.70	0.68~3.40	1.02~4.07
200,000	0.16~0.82	0.33~1.64	0.49~1.96
300,000	0.08~0.42	0.17~0.85	0.25~1.27
400,000	0.08~0.42	0.17~0.85	0.25~1.02

8 Fail-Safe Method

Code	Fail-Safe
CN	Power Cylinder (Not Fail-Safe)

9 Fail-Safe Direction

Code	Fail-Safe Direction
N	Not Fail-Safe

10 Thrust¹

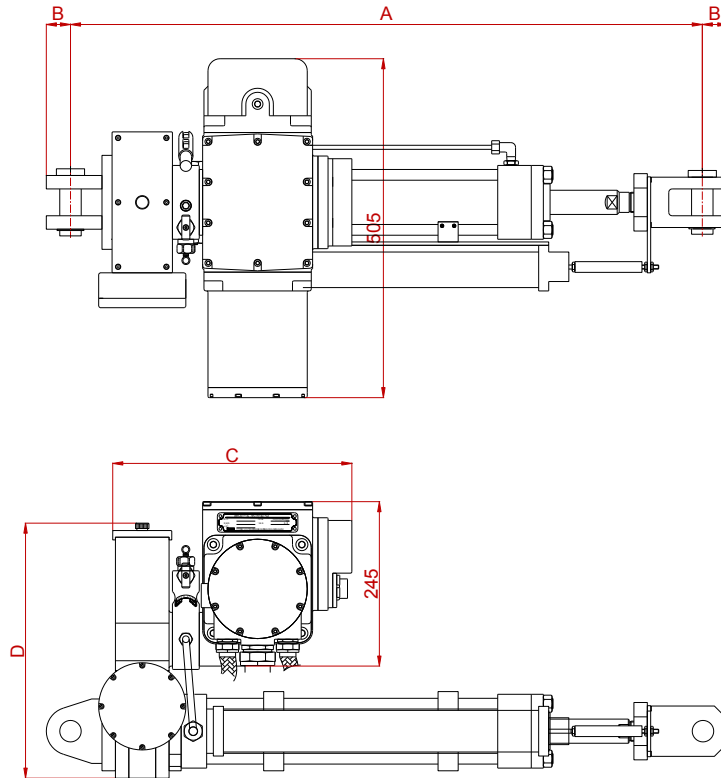
Code	Thrust	
	N	lbf
0005	5,000	1,124
0010	10,000	2,248
0020	20,000	4,496
0040	40,000	8,992
0060	60,000	13,488
0080	80,000	17,984
0100	100,000	22,480
0200	200,000	44,961
0300	300,000	67,442
0400	400,000	89,923

11 Stroke

Code	Stroke
010~990	Code × 10 mm

1. Contact for higher torque
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms

MHP Electro-Hydraulic Power Cylinder

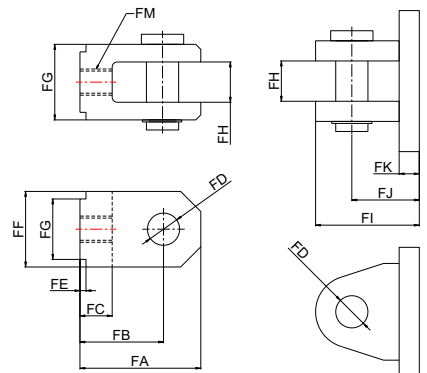


Dimensions of the MHP Electro-Hydraulic Power Cylinder

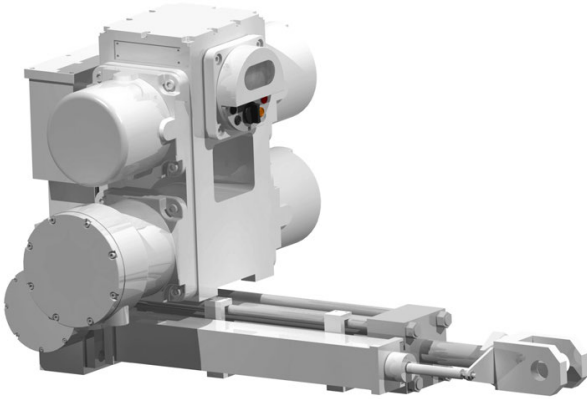
Model	A (by stroke) (mm)										B (mm)	C (mm)	D (mm)
	200	300	400	500	600	800	1,000	1,500	2,000	3,000			
MHP _____ CNN0005 -	752	892	1022	1152	1288	1554	1802	2437	3042	4342	20	319	385
MHP _____ CNN0010 -	762	902	1032	1162	1298	1564	1812	2447	3052	4352	24	319	405
MHP _____ CNN0020 -	828	968	1098	1228	1364	1630	1878	2513	3118	4418	32	319	435
MHP _____ CNN0040 -	912	1052	1182	1312	1448	1714	1962	2597	3202	4502	40	339	455
MHP _____ CNN0060 -	975	1115	1245	1375	1511	1777	2025	2660	3265	4565	50	359	475
MHP _____ CNN0080 -	1103	1243	1373	1503	1639	1905	2153	2788	3393	4693	70	379	495
MHP _____ CNN0100 -	1128	1268	1398	1528	1664	1930	2178	2813	3418	4718	80	379	495
MHP _____ CNN0200 -	1309	1449	1579	1709	1845	2111	2359	2994	3599	4899	90	419	535
MHP _____ CNN0300 -	1463	1603	1733	1863	1999	2256	2513	3148	3753	5053	110	459	555
MHP _____ CNN0400 -	1699	1839	1969	2099	2235	2501	2749	3384	3989	5289	130	559	595

Dimensions for Knuckles for Valve Connection: Y-Knuckle (Left) and I-Knuckle (Right)

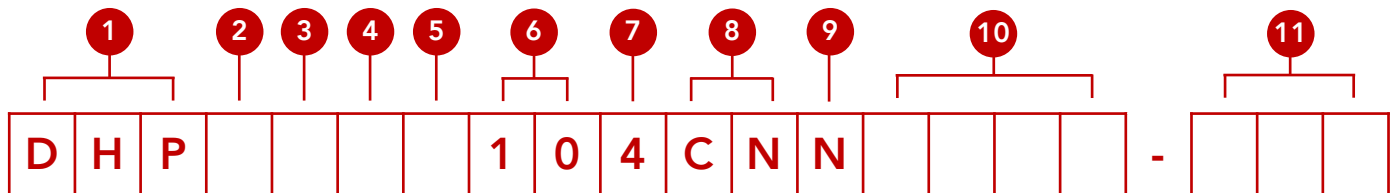
Model	Dimensions (mm)											
	FA	FB	FC	ΦFD	FE	FF	ΦFG	FH	FI	FJ	FK	FM
MHP _____ LNN0005 -	70	50	20	20	5	40	32	20	60	40	10	M16 x 1.5
MHP _____ LNN0010 -	80	56	20	24	5	48	32	24	70	46	10	M16 x 1.5
MHP _____ LNN0020 -	110	78	30	32	5	64	48	32	92	60	12	M24 x 1.5
MHP _____ LNN0040 -	140	100	40	40	5	80	60	40	114	74	14	M30 x 1.5
MHP _____ LNN0060 -	180	130	55	50	7	100	78	50	141	91	16	M39 x 1.5
MHP _____ LNN0080 -	245	175	70	70	7	140	96	70	193	123	18	M48 x 1.5
MHP _____ LNN0100 -	270	190	70	80	7	160	96	80	218	138	18	M48 x 1.5
MHP _____ LNN0200 -	330	240	105	90	10	180	144	90	249	159	24	M72 x 1.5
MHP _____ LNN0300 -	410	300	135	110	10	220	190	110	303	193	28	M95 x 2.0
MHP _____ LNN0400 -	470	340	145	130	10	260	200	130	357	227	32	M100 x 2.0



DHP Electro-Hydraulic Power Cylinder



Mechanical	Thrust	5,000 N ~ 400,000 N ¹
	Hydraulic Oil	ISO VG46 (Optional: SYNTH ISO VG46)
Electrical	Motor	0.6 kW Brushless DC Motor
	Power Input	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	Communication	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	Vibration Resistant	66.7m/s ² at 33.3 Hz
	Temperature	-20 ~ 60°C
	Enclosure Options	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	Paint Type	Powder Coating
	Color	KCC PX4327-LPG Gray
	Thickness	75 μm
Cable Entry	Power	(RIGHT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
	DI/O	(CENTER) PF 1 Gland (IP68), NPT 1 (Ex)
	AI/O	(LEFT) PF 3/4 Gland (IP68), NPT 3/4 (Ex)
Safety	Electrical	Over Current/Phase Shift Protection/Reset
	Operational	Password Protected Access



Model Number

1 Power-pack²

DHP (Dual Hydraulic Power-pack)

2 Enclosure

Code	Enclosure
W	IP 68 Water-proof
X	Exd II B T4 Explosion-proof

3 Power

Code	Enclosure
S	Single Phase AC110~220V 50/60 Hz
T	Three Phase AC380~460V 50/60 Hz

4 Advanced Control Modes³

Code	Included Control Modes					
	On/Off	Position Output	Speed Control	Modulation	Step Control	EMC
E	○	-	-	-	-	-
G	○	○	-	-	-	-
M	○	○	-	○	-	-

5 Communication⁴

Code	Communication
N	AIO/DIO
P	Profibus

6 Resolution

Code	Resolution
10	Default: 1% ($\pm 0.5\%$)

7 Operating Speed

Speed Range (mm/s)		Code		
		1	2	3
Thrust (N)	5,000	3.32~16.58	6.63~33.16	9.95~49.74
	10,000	3.32~16.58	6.63~33.16	9.95~39.79
	20,000	1.34~6.68	2.67~13.37	4.01~20.05
	40,000	0.83~4.14	1.66~8.29	2.49~9.95
	60,000	0.53~2.65	1.06~5.31	1.59~6.37
	80,000	0.34~1.70	0.68~3.40	1.02~5.09
	100,000	0.34~1.70	0.68~3.40	1.02~4.07
	200,000	0.16~0.82	0.33~1.64	0.49~1.96
	300,000	0.08~0.42	0.17~0.85	0.25~1.27
400,000	0.08~0.42	0.17~0.85	0.25~1.02	

9 Fail-Safe Direction

Code	Fail-Safe Direction
N	Not Fail-Safe

10 Thrust¹

Code	Thrust	
	N	lbf
0005	5,000	1,124
0010	10,000	2,248
0020	20,000	4,496
0040	40,000	8,992
0060	60,000	13,488
0080	80,000	17,984
0100	100,000	22,480
0200	200,000	44,961
0300	300,000	67,442
0400	400,000	89,923

8 Fail-Safe Method

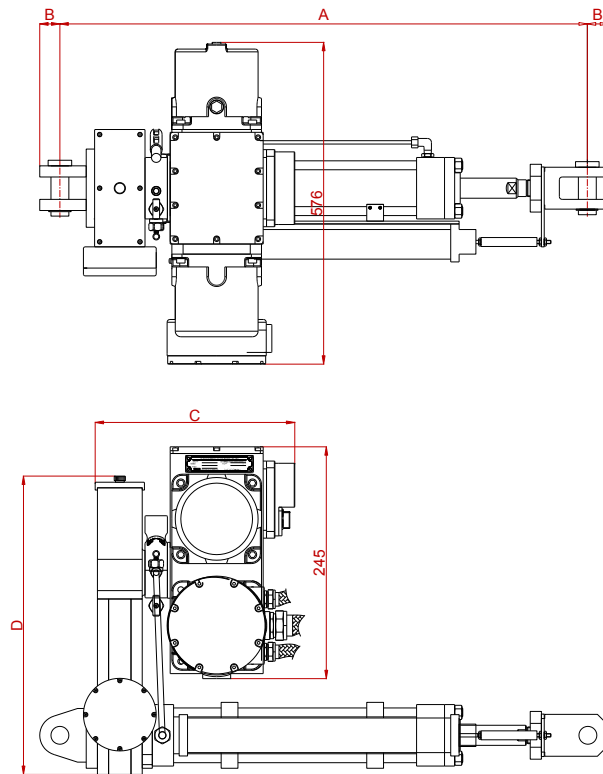
Code	Fail-Safe
CN	Power Cylinder (Not Fail-Safe)

11 Stroke

Code	Stroke
010~990	Code × 10 mm

1. Contact for higher torque
2. Refer to Page 4: RPMTECH™ Electro-Hydraulic Actuators
3. Refer to Page 5: Advanced Control Modes
4. Contact for other communication platforms

DHP Electro-Hydraulic Power Cylinder

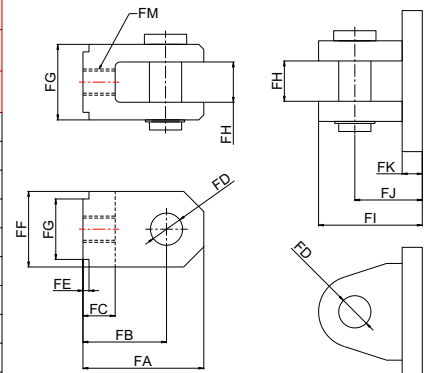


Dimensions of the MHP Electro-Hydraulic Power Cylinder

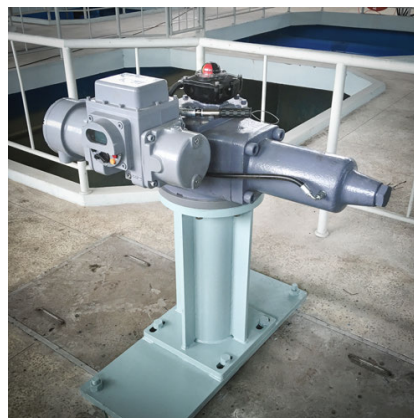
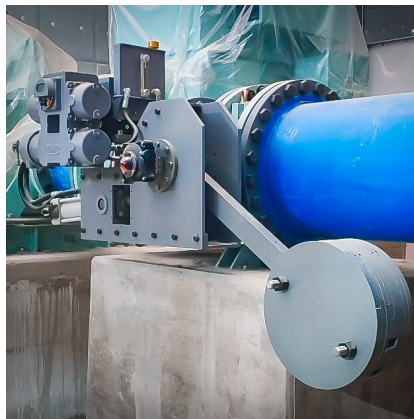
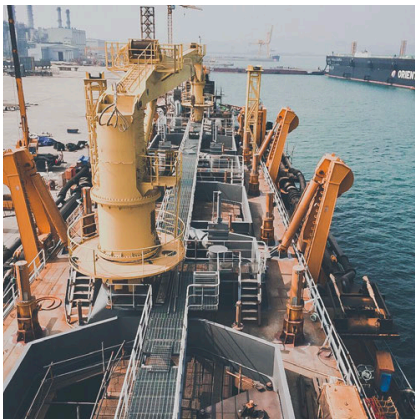
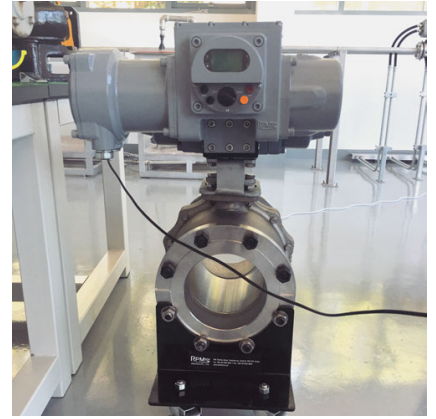
Model	A (by stroke) (mm)										B (mm)	C (mm)	D (mm)
	200	300	400	500	600	800	1,000	1,500	2,000	3,000			
DHP _____ CNN0005 - ____	752	892	1022	1152	1288	1554	1802	2437	3042	4342	20	319	385
DHP _____ CNN0010 - ____	762	902	1032	1162	1298	1564	1812	2447	3052	4352	24	319	405
DHP _____ CNN0020 - ____	828	968	1098	1228	1364	1630	1878	2513	3118	4418	32	319	435
DHP _____ CNN0040 - ____	912	1052	1182	1312	1448	1714	1962	2597	3202	4502	40	339	455
DHP _____ CNN0060 - ____	975	1115	1245	1375	1511	1777	2025	2660	3265	4565	50	359	475
DHP _____ CNN0080 - ____	1103	1243	1373	1503	1639	1905	2153	2788	3393	4693	70	379	495
DHP _____ CNN0100 - ____	1128	1268	1398	1528	1664	1930	2178	2813	3418	4718	80	379	495
DHP _____ CNN0200 - ____	1309	1449	1579	1709	1845	2111	2359	2994	3599	4899	90	419	535
DHP _____ CNN0300 - ____	1463	1603	1733	1863	1999	2256	2513	3148	3753	5053	110	459	555
DHP _____ CNN0400 - ____	1699	1839	1969	2099	2235	2501	2749	3384	3989	5289	130	559	595

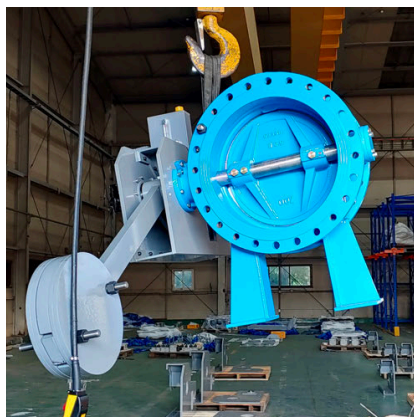
Dimensions for Knuckles for Valve Connection: Y-Knuckle (Left) and I-Knuckle (Right)

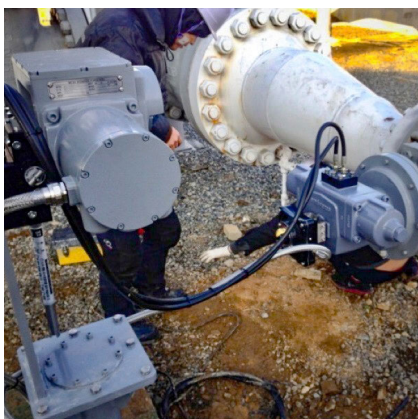
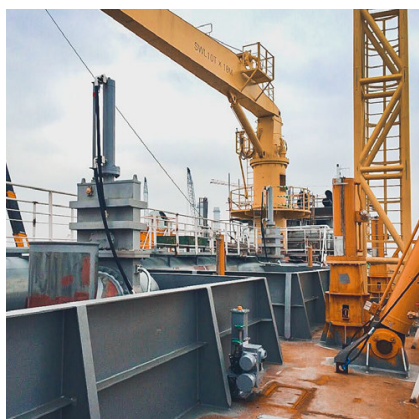
Model	Dimensions (mm)											
	FA	FB	FC	ΦFD	FE	FF	ΦFG	FH	FI	FJ	FK	FM
DHP _____ LNN0005 - ____	70	50	20	20	5	40	32	20	60	40	10	M16 x 1.5
DHP _____ LNN0010 - ____	80	56	20	24	5	48	32	24	70	46	10	M16 x 1.5
DHP _____ LNN0020 - ____	110	78	30	32	5	64	48	32	92	60	12	M24 x 1.5
DHP _____ LNN0040 - ____	140	100	40	40	5	80	60	40	114	74	14	M30 x 1.5
DHP _____ LNN0060 - ____	180	130	55	50	7	100	78	50	141	91	16	M39 x 1.5
DHP _____ LNN0080 - ____	245	175	70	70	7	140	96	70	193	123	18	M48 x 1.5
DHP _____ LNN0100 - ____	270	190	70	80	7	160	96	80	218	138	18	M48 x 1.5
DHP _____ LNN0200 - ____	330	240	105	90	10	180	144	90	249	159	24	M72 x 1.5
DHP _____ LNN0300 - ____	410	300	135	110	10	220	190	110	303	193	28	M95 x 2.0
DHP _____ LNN0400 - ____	470	340	145	130	10	260	200	130	357	227	32	M100 x 2.0

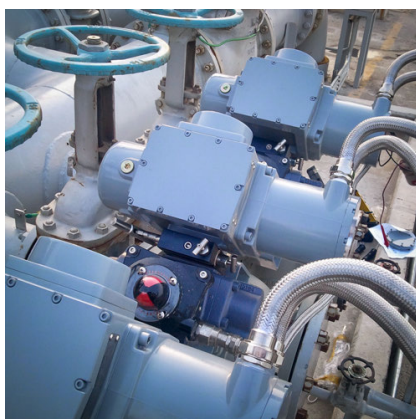


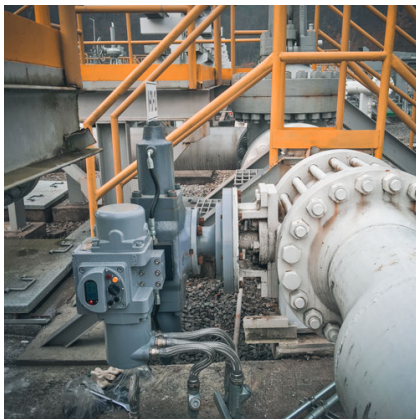
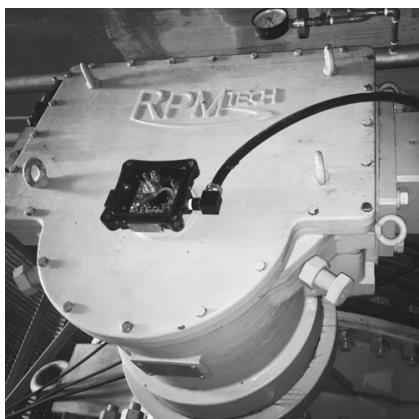
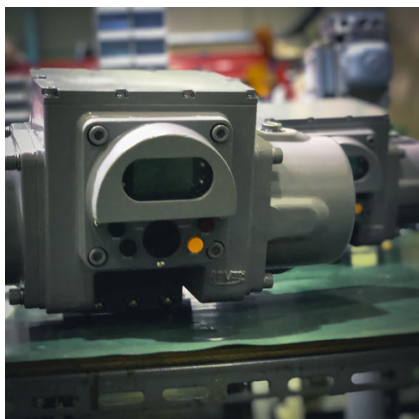
Photos

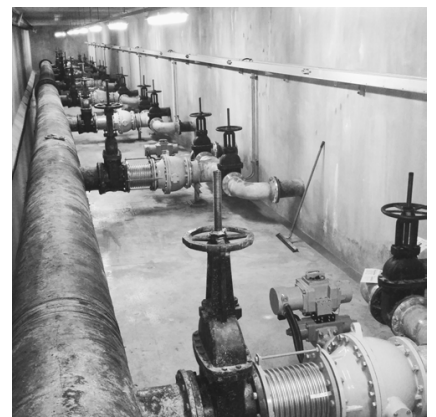
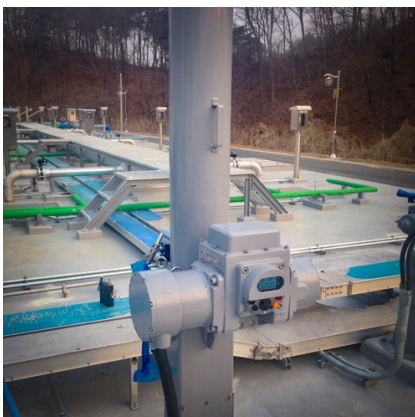
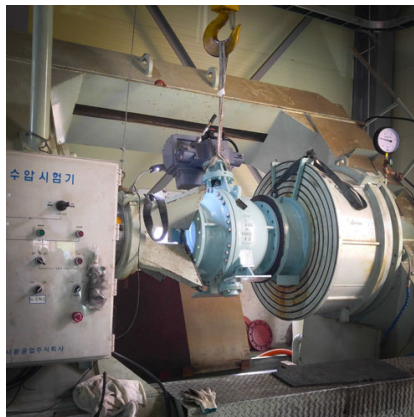
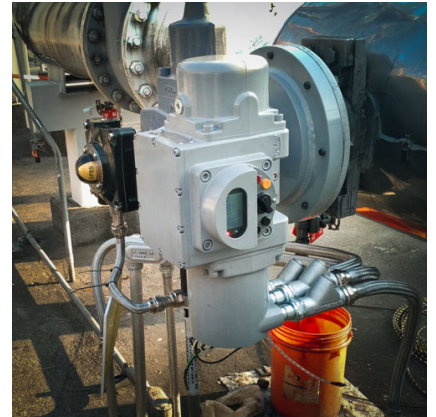














Patents and Certifications





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