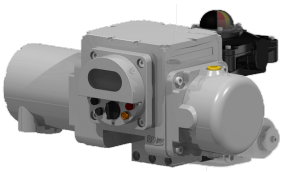
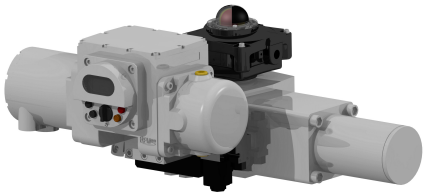
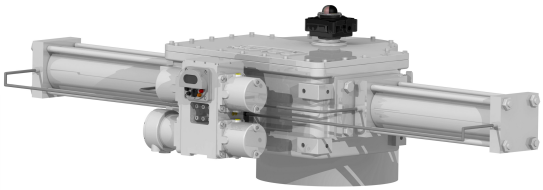
Automation & Flow Control

전동 유압식 액추에이터

RPMTECH

RPMTECH CO., LTD.

(주)알피엠텍

Established in 2002

- 오일 / 가스
- 발전소
- 제철소
- 상하수 처리
- 화학 / 정유시설
- 광산
- 시멘트
- 일반 산업
- 펄프와 제지
- 해양 산업

www.rpmtech.co.kr

인사말

㈜알피엠텍은 2002년에 설립되어 일체형 소형 전동 유압식 밸브 조작기를 개발하였으며 다양한 특허와 인증을 바탕으로 20년 가까이 전동 유압식 밸브 조작기를 개발, 생산, 공급하고 있는 기업입니다. 당사의 제품은 각종 원격제어는 물론 핸드 펌프를 이용해 수동 조작도 가능하며 소형, 모듈화된 설계 덕분에 공간이 협소한 현장에도 제품을 쉽게 설치할 수 있으며 유지보수 또한 매우 간단합니다.

알피엠텍 제품은 정수/하수처리장, 해양/선박, 발전/에너지, 정유/석유화학 등 다양한 분야에 납품되고 있습니다. 알피엠텍은 지속적인 경영혁신과 꾸준한 기술개발을 통해 더욱 향상되고 신뢰성 있는 제품으로 고객에게 다가가는 기업이 되겠습니다.

감사합니다.

대표이사

경영 이념

신뢰

고객 중심

기술 혁신

회사 연혁

2002

2002년 9월 29일
(주)알피엠텍 법인설립

2004년 5월 24일
첫 특허등록: 셀프베어링 스텝모터 시스템 및 그 제어방법

2006년 12월 29일
기술혁신형 중소기업 (INNO-BIZ)

2007년 5월 2일
특허스타기업육성사업 선정 (대전시)

2011년 7월 5일
방호 장치 및 보호구 품질대상 최우수상 수상 (한국산업안전보건공단)

2014년 4월 29일
국제 방폭 인증 획득: IECEx (KTL), ATEX (INERIS)
MICRO HYDRAULIC POWER PACK(MHPX, DHPX, RX)

2014년 10월 16일
기술개발 우수중소기업부분 최우수상 수상 (산업통산자원부장관상)

2015년 6월 5일
우수기술개발 우수 기업상 수상 (한국수자원공사)

2015년 7월 8일
밸브 개폐용 유압식 조작기 시스템 특허 등록
그 외 18개의 특허 보유

2016년 2월 23일
한국산업안전보건공단 방폭 안전인증서 획득
그 외 31개의 국내/국제 인증서 보유

2016년 10월 18일
경쟁입찰참가자격등록증: 동력밸브 개폐기 (조달청)

2019년 3월 21일
머니투데이 2019 대한민국 혁신대상 수상

현재

제품 소개

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MHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator ✓ Fail-Safe 10
MHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator ✓ Fail-Safe 12

DHP Series (고성능)

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DHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator ✓ Fail-Safe 16
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MHP Series

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MHP Series

MHP Electro-Hydraulic Multi-Turn Valve Actuator 32

DHP Series (고성능)

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Power Cylinders

MHP Series

MHP Electro-Hydraulic Power Cylinder 36

DHP Series (고성능)

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RPMTECH™ 전동 유압식 액추에이터 요약

전동 유압식 액추에이터는 모터로 **유압 펌프**를 구동하여 발생된 유량을 **유압 실린더**에 공급하여 밸브 구동을 위한 **회전력** 또는 **추력**을 발생시킨다.

컴팩트한 일체형 디자인

유압 발생 장치, 제어기, 유압 실린더, 수동 핸드펌프 등이 일체형으로 컴팩트 하게 설계되어있어 제품의 설치 및 유지보수 등이 용이하다. 특히 설치 공간이 협소한 경우 파워팩과 실린더의 위치를 변경하여 설치의 효율성을 증대하였다.

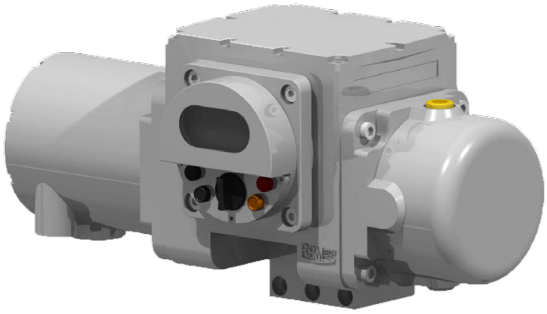
고급 제어 기능

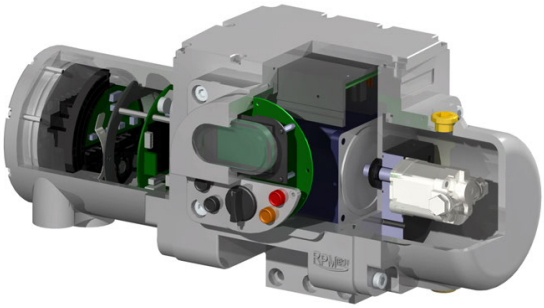
AIO, DIO, Profibus 등 각종 통신 인터페이스를 지원한다. 밸브 구동시 문제가 발생할 경우 자가진단 기능을 통하여 문제점을 텍스트로 디스플레이 할 수 있으며 밸브 설치시 세팅에 필요한 파라미터들을 별도의 장비 없이 로컬 조작 스위치로 간편하게 세팅 할 수 있다. 또한 밸브의 구동 속도를 현장에 맞게 변경 할 수 있어 운영 효율을 증대 할 수 있다.

현장의 안전

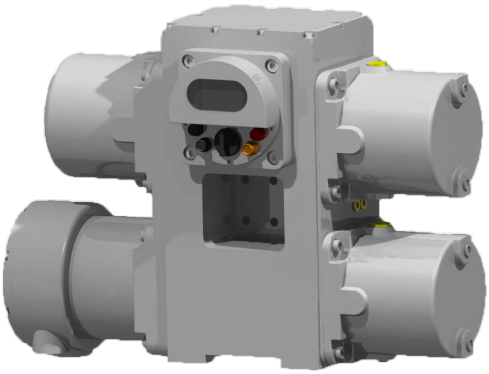
정전 또는 고장 시 수동핸드 펌프를 통하여 수동조작이 가능하며, 최대 압력 이상의 비정상적인 압력 발생을 대비하여 기계적, 전기적인 보호장치가 구성되어 있다. 사용자가 접근하기 어려운 곳에 밸브가 설치 되어 있을 경우 실린더는 밸브에 부착하고, 조작부는 접근이 용이 한곳에 분리형으로 설치 하여 사용자가 안전하게 사용 할 수 있다.

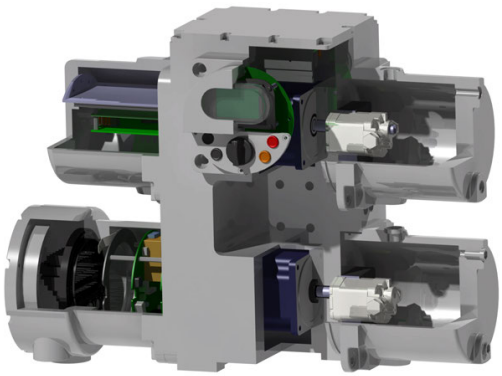
MHP (Micro Hydraulic Power-pack)





DHP (Dual Hydraulic Power-pack)





전동 유압식 파워팩: MHP vs DHP

RPMTECH™ 전동 유압식 액추에이터는 **MHP** (Micro Hydraulic Power-pack) 혹은 **DHP** (Dual Hydraulic Power-pack) 파워팩이 장착되어 있다. DHP는 두 개의 모터로 구동되어 MHP에 비해 작동 속도가 두배 빠르기 때문에 빠른 Open/Close 시간을 요구하는 현장에 적합하다.

RPMTECH™ 전동 유압식 액추에이터의 특징

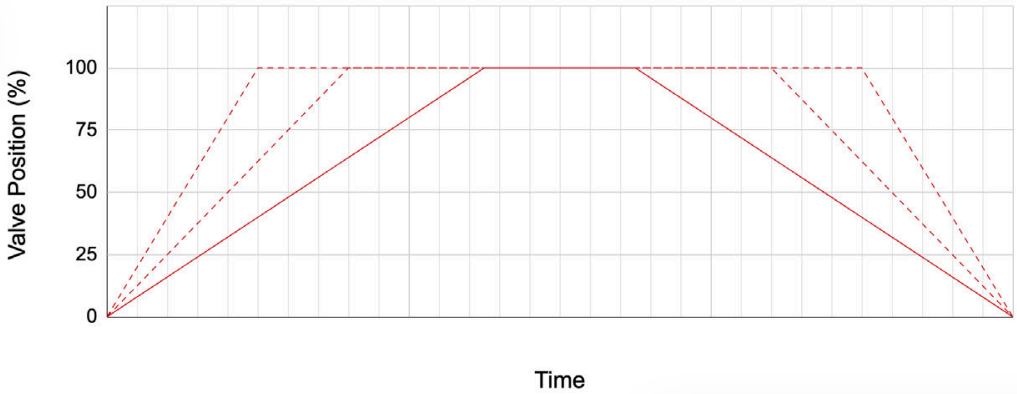
- 고효율 양방향 BLDC 모터
- 로컬 스위치 및 제어기
- Graphic LCD 디스플레이
- 내장된 유압유 탱크와 생물 분해성 유압유 (선택 사항)
- 특허 기술이 내장된 매뉴얼 핸드 펌프

고급 제어 기능

정밀한 **유량 제어**나 **수충격 완화** 및 **밸브 디스크 보호**에 최적화된 **고급 제어 기능들**

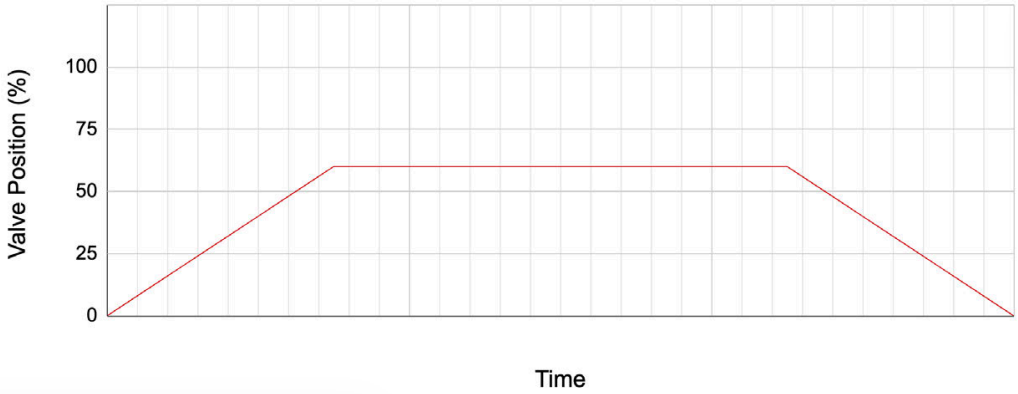
Open/Close

밸브 구동 시 밸브 개폐 속도를 조절하는 기능으로 사용자가 직접 설정할 수 있다.
(모든 모델 해당)



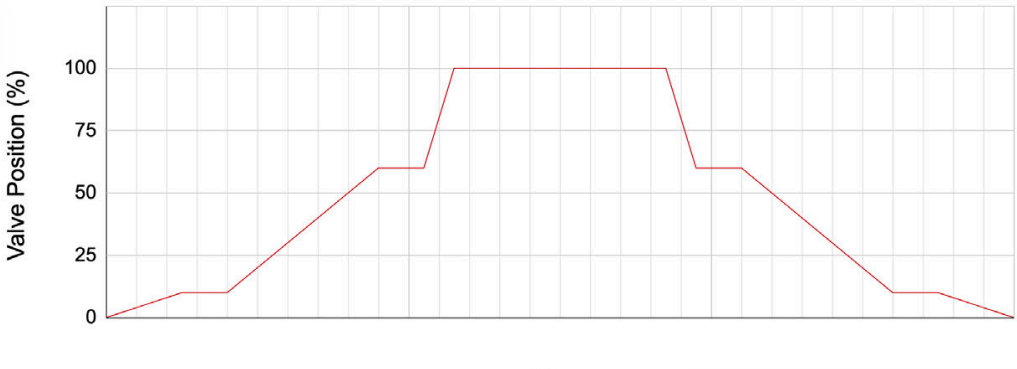
Modulation

밸브의 개도를 제어하는 기능으로 1% 단위로 조정 가능하다. 유량 조절 밸브나 기타 개도 제어가 필요한 밸브에 사용된다.
(별도 옵션)



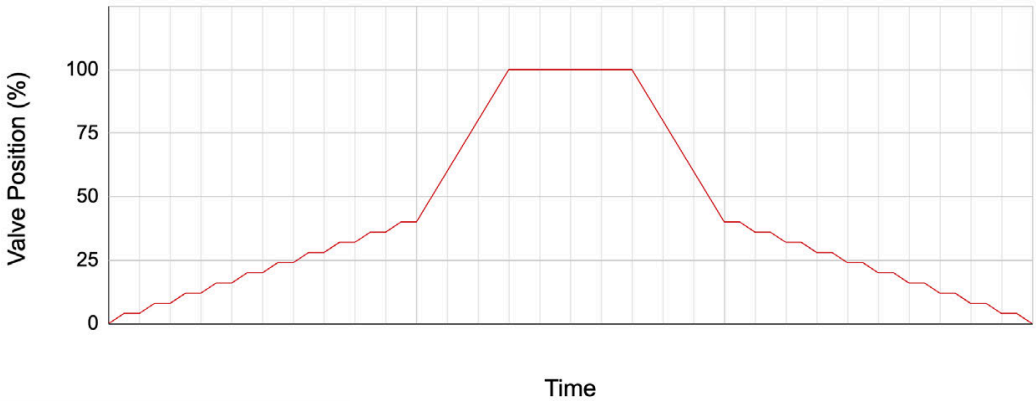
Speed Control

밸브의 동작 구간을 나누어 각각의 구동 속도, 정지 시간 등을 설정할 수 있다.
(별도 옵션)



Step Control

밸브의 구동 속도를 줄이는 것은 물리적으로 한계가 있기 때문에, 정밀한 스텝 제어 방식을 적용하여 밸브 구동 시간을 획기적으로 확장 가능하므로, 밸브의 저속 운전에 따른 유체의 안정성을 높일 수 있다.
(별도 옵션)



EMC

전원 상실 시 무정전 전원 장치(UPS)를 사용하여 밸브를 구동하는 시스템이다. 별도의 기계적 부가 시스템이 필요치 않으며 저비용으로 Fail-Safe 기능 구현이 가능하다. (별도 옵션)

설치 타입

1 일상식 수직형 설치

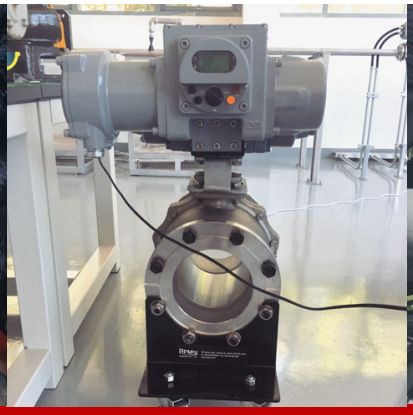
적용 가능한 밸브 타입

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

특징

- 밸브 스템 방향이 **수직**(하늘방향)이다.
- 액추에이터와 실린더가 **밸브와 직결**된다.
- 기어박스가 **불필요하다**.
- 조작부 각도는 **90° 단위로 설치**가 가능하다

200A Ball Valve (1,100 Nm)



200A Ball Valve (1,100 Nm)

200A Butterfly Valve (1,100 Nm)

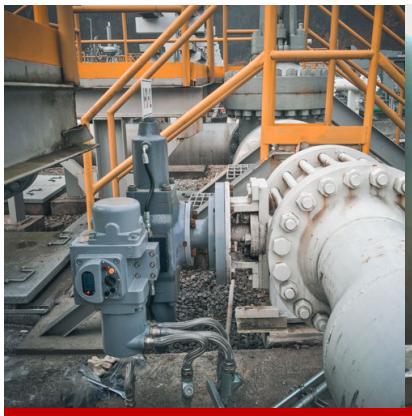
2 일상식 수평형 설치

적용 가능한 밸브 타입

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

특징

- 밸브 스템 방향이 **지면과 수평**이다
- 액추에이터와 실린더가 **밸브와 직결**되거나 **링크**로 연결된다.
- 기어박스가 **불필요하다**.
- 조작부 각도는 **90° 단위로 설치**가 가능하다



Ball Valve (9,000 Nm)

Butterfly Valve (32,000 Nm)

Fail-Safe Butterfly Valve (23,000 Nm)

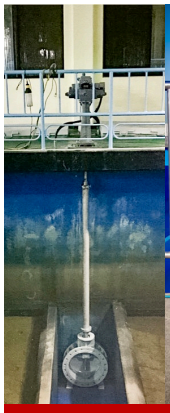
3 이상식 수직형 설치

적용 가능한 밸브 타입

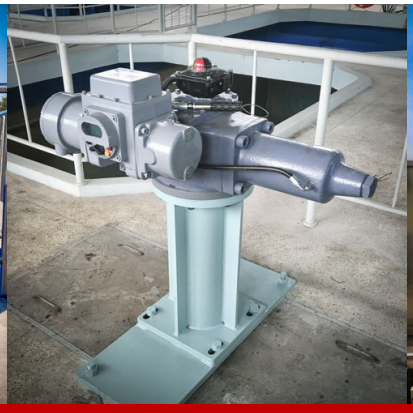
Butterfly Valves, Ball Valves, Plug Valves, Gate Valves, Globe Valves, etc.

특징

- 액추에이터와 실린더가 **이상식 축**에 의해 **밸브와 직결**된다.
- 밸브 스템 방향이 **수직**(하늘방향)이다.
- 기어박스가 **불필요하다**.
- 밸브가 물에 잠기는 경우 **안전한 조작을 위해** 적용된다.



Submerged Butterfly Valve (600 Nm)



Submerged Butterfly Valve (16,000 Nm)

Fail-Safe Gate Valve (40,000 N)

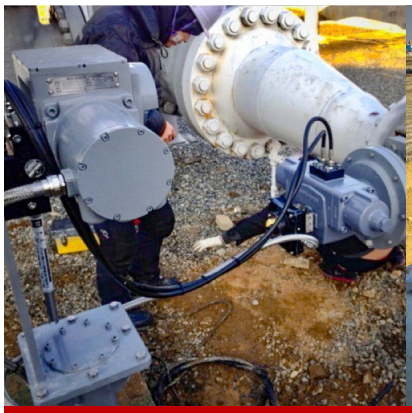
4 분리형 설치

적용 가능한 밸브 타입

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

특징

- 액추에이터와 실린더가 **분리되어 설치된다**.
- 밸브 스템과 액추에이터의 **설치 방향** 및 **위치**가 상관없다.
- 기어박스가 **불필요하다**.
- 밸브 조작 환경이 위험하거나 접하기 어려운 경우 **안전한 조작을 위해** 적용된다.

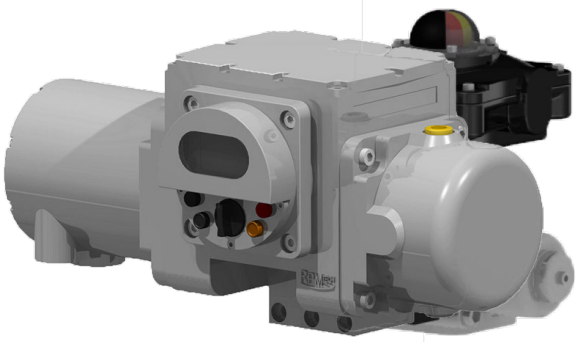


Butterfly Valve (1,100 Nm)

Valve installed 12 m underground

Valve underground, actuator at ground

MHP Electro-Hydraulic Quarter-Turn Valve Actuator



Mechanical	토크	600 Nm ~ 32,000 Nm[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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 파워팩[2]

MHP (Micro Hydraulic Power-pack)

2 방수/방폭 등급

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

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간

Time Range (s)		Code		
		0	1	2
Torque (Nm)	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 방식

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

9 Fail-Safe 방향

Code	Fail-Safe Direction
N	Not Fail-Safe

10 토크[1]

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

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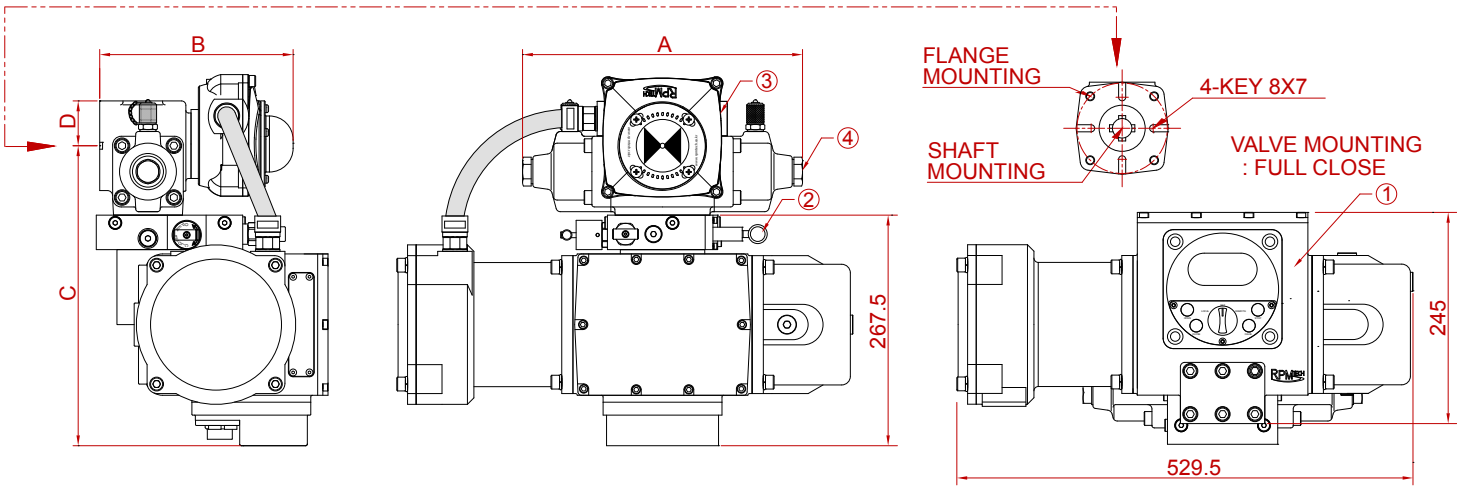
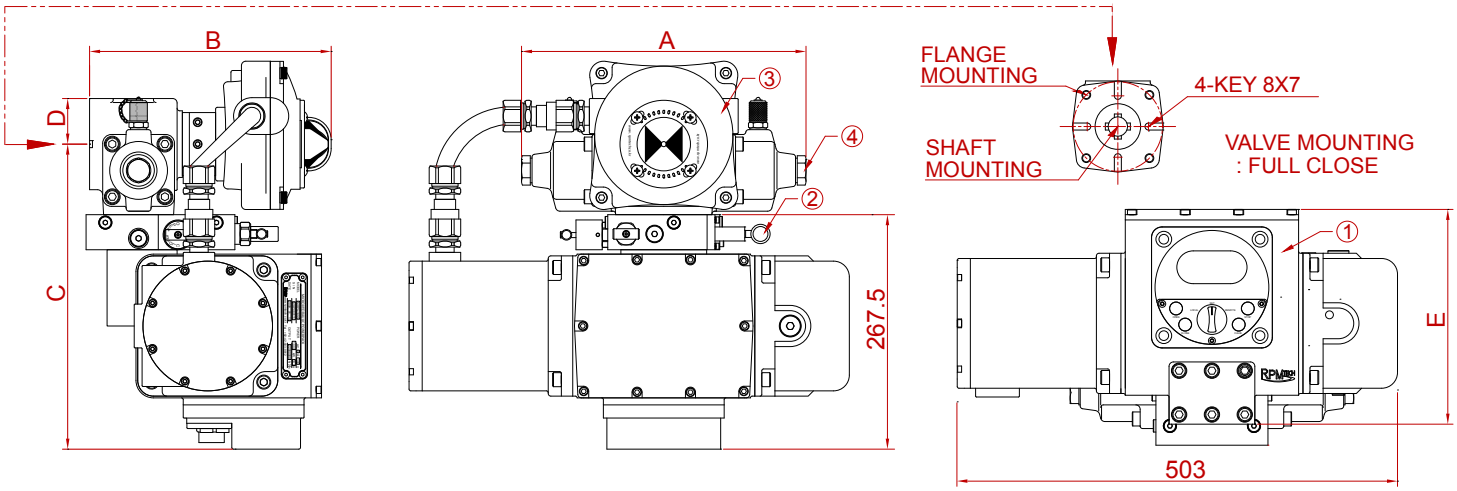
MHP Electro-Hydraulic Quarter-Turn Valve Actuator: Water-proof



① HYDRAULIC POWER UNIT ② MANUAL HAND PUMP ③ POSITION METER ④ HYDRAULIC CYLINDER

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

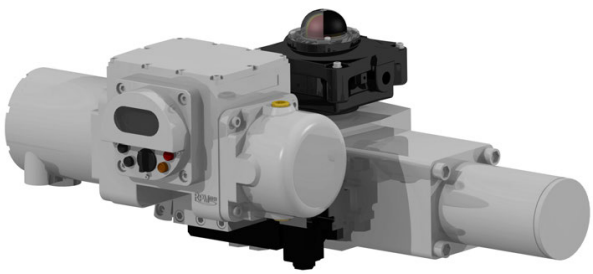


① HYDRAULIC POWER UNIT ② MANUAL HAND PUMP ③ POSITION METER ④ HYDRAULIC CYLINDER

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	토크	500 Nm ~ 60,000 Nm[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방폭 등급	Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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 파워팩[2]

MHP (Micro Hydraulic Power-pack)

2 방폭 등급

Code	Enclosure
X	Exd II B T4 Explosion-proof

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간

Time Range (s)		Code		
		1	2	3
Torque (Nm)	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

8 Fail-Safe 방식

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

9 Fail-Safe 방향

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

10 토크[1]

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

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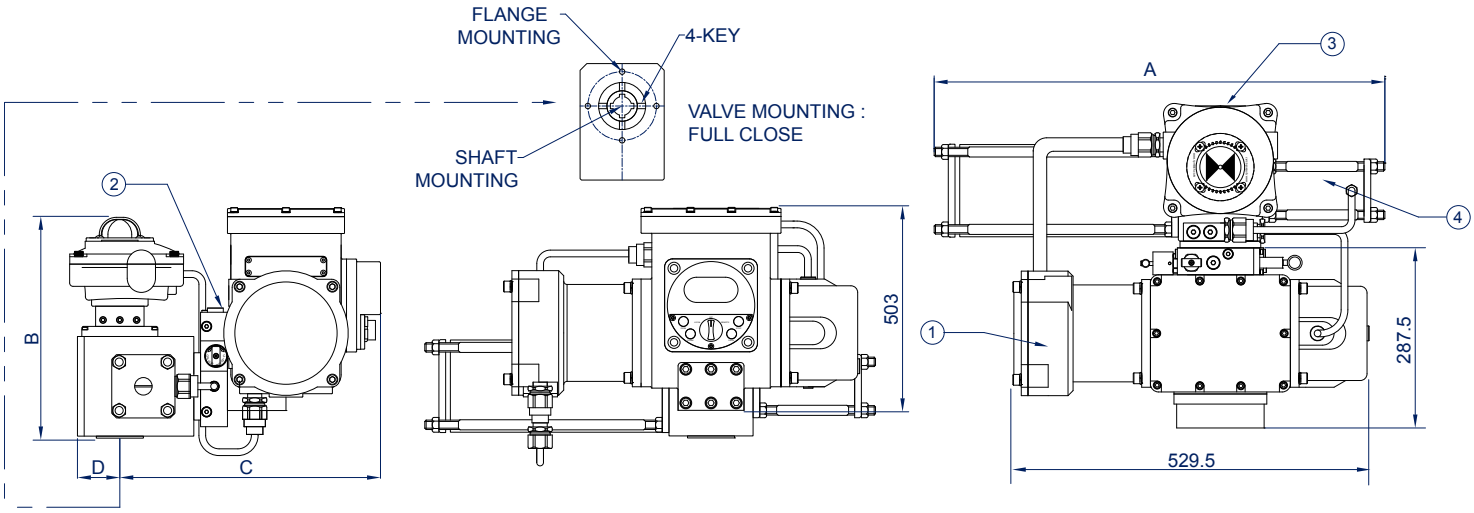
MHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator



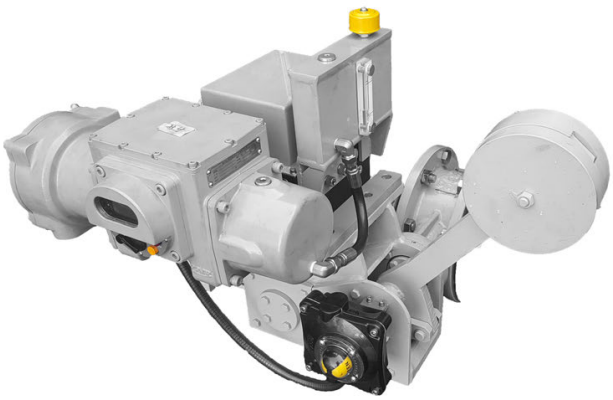
1 HYDRAULIC POWER UNIT 2 MANUAL HAND PUMP 3 POSITION METER 4 SPRING-RETURN CYLINDER

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	토크	600 Nm ~ 32,000 Nm[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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 파워팩[2]

MHP (Micro Hydraulic Power-pack)

2 방수/방폭 등급

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

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간[5]

Time (s)		Code
		2
Torque (Nm)	600	Emergency Fail-Close in less than 10 seconds (수충격 완화를 위한 댐핑 시간 포함)
	1,100	
	2,200	
	5,000	
	9,000	
	16,000	
	32,000	

8 Fail-Safe 방식

Code	Fail-Safe
QW	Quarter-Turn Counterweight

9 Fail-Safe 방향

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

10 토크[1]

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

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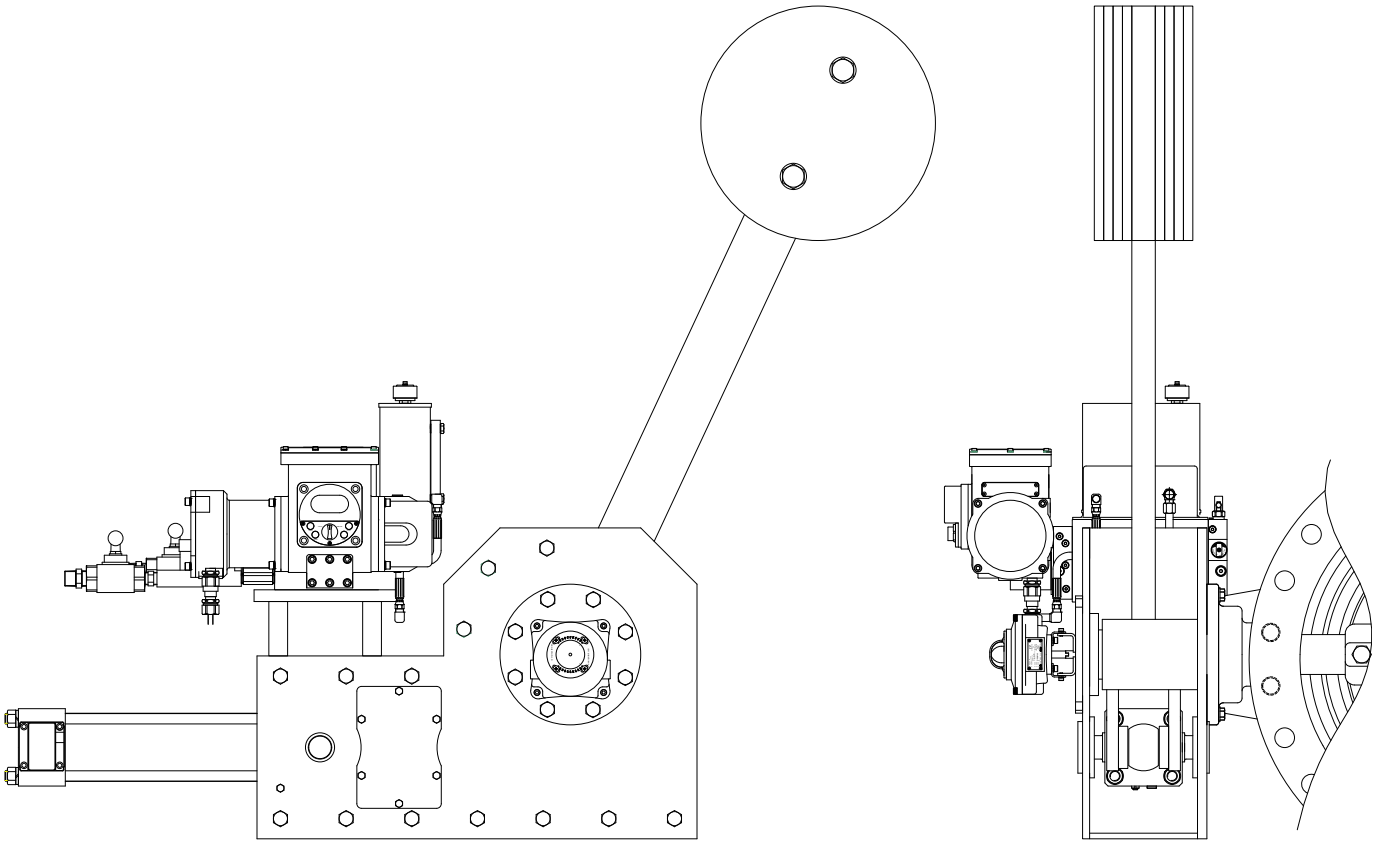
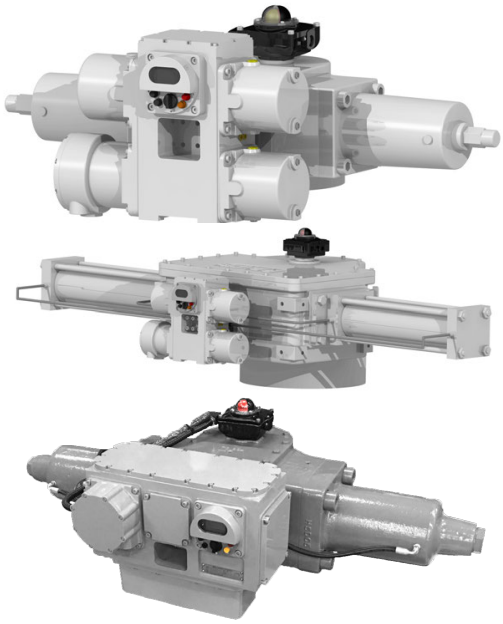
MHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator



Dimensions of the MHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator	
Model	**Dimensions**
...	문의 바랍니다.
...	
...	

DHP Electro-Hydraulic Quarter-Turn Valve Actuator



Mechanical	토크	600 Nm ~ 32,000 Nm[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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 파워팩[2]

DHP (Dual Hydraulic Power-pack)

2 방수/방폭 등급

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

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간

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 방식

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

9 Fail-Safe 방향

Code	Fail-Safe Direction
N	Not Fail-Safe

10 토크[1]

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

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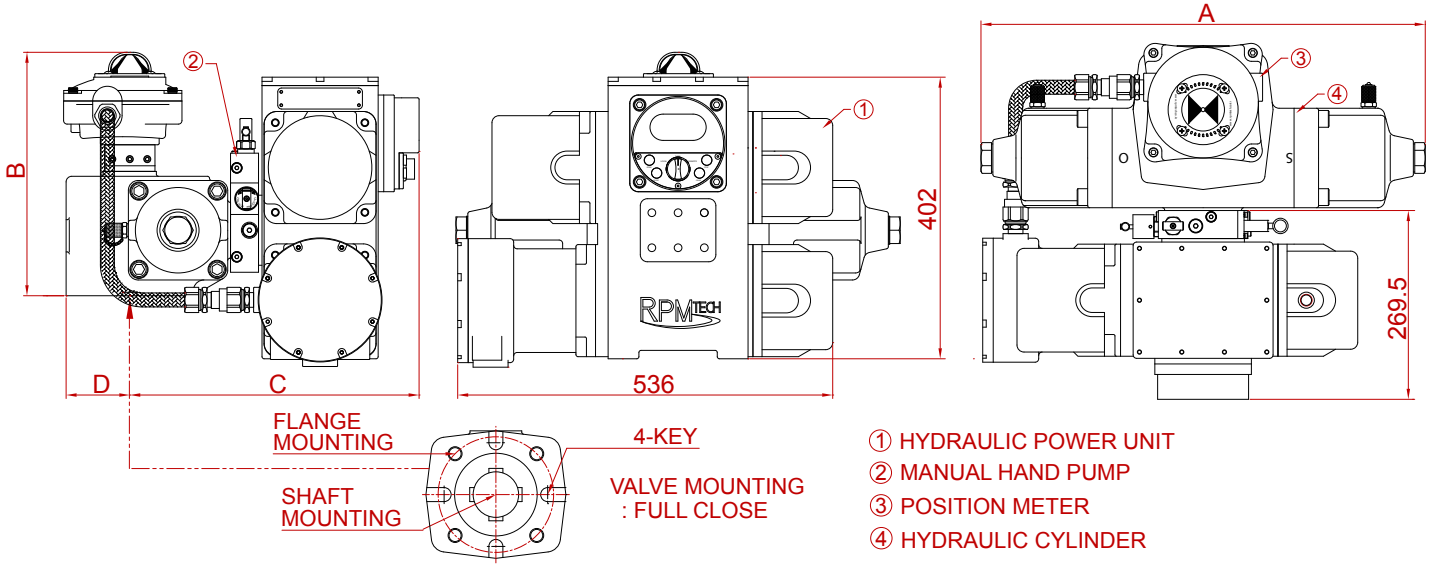
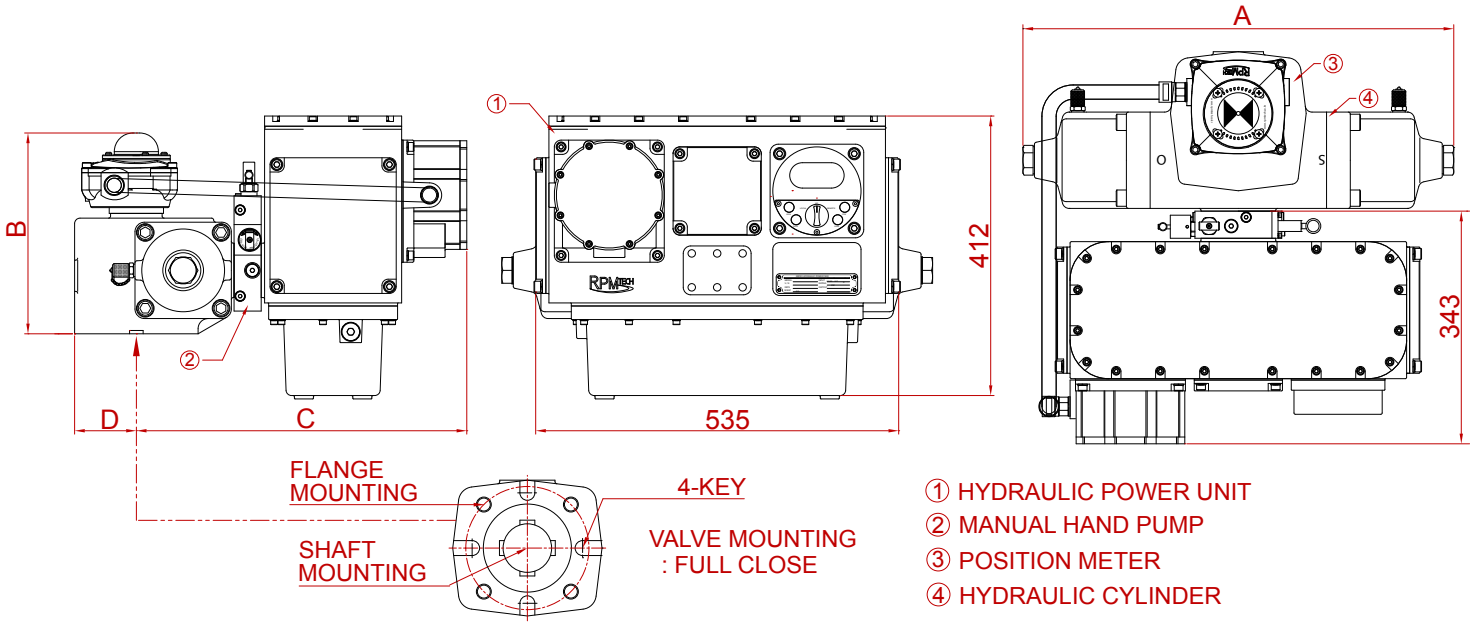
DHP Quarter-Turn Actuator: Single-Phase Power



DHP Quarter-Turn Actuator: Three-Phase Power

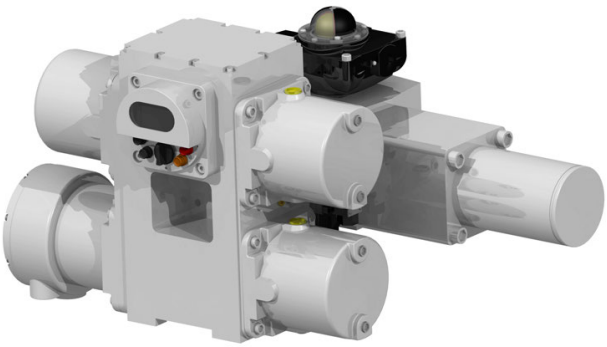


Dimensions of the DHP Quarter-Turn Electro-Hydraulic Valve Actuator

	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
	DHP _ S _ _ _ _ _ QNN0320	1462	527	558	175	F30	110	180	28 x 16
Three-Phase Power	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	토크	500 Nm ~ 60,000 Nm[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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 파워팩[2]

DHP (Dual Hydraulic Power-pack)

2 방폭 등급

Code	Enclosure
X	Exd II B T4 Explosion-proof

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간

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

8 Fail-Safe 방식

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

9 Fail-Safe 방향

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

10 토크[1]

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

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2. Page 4: RPMTECH™ 전동 유압식 액추에이터 요약
3. Page 5: 고급 제어 기능
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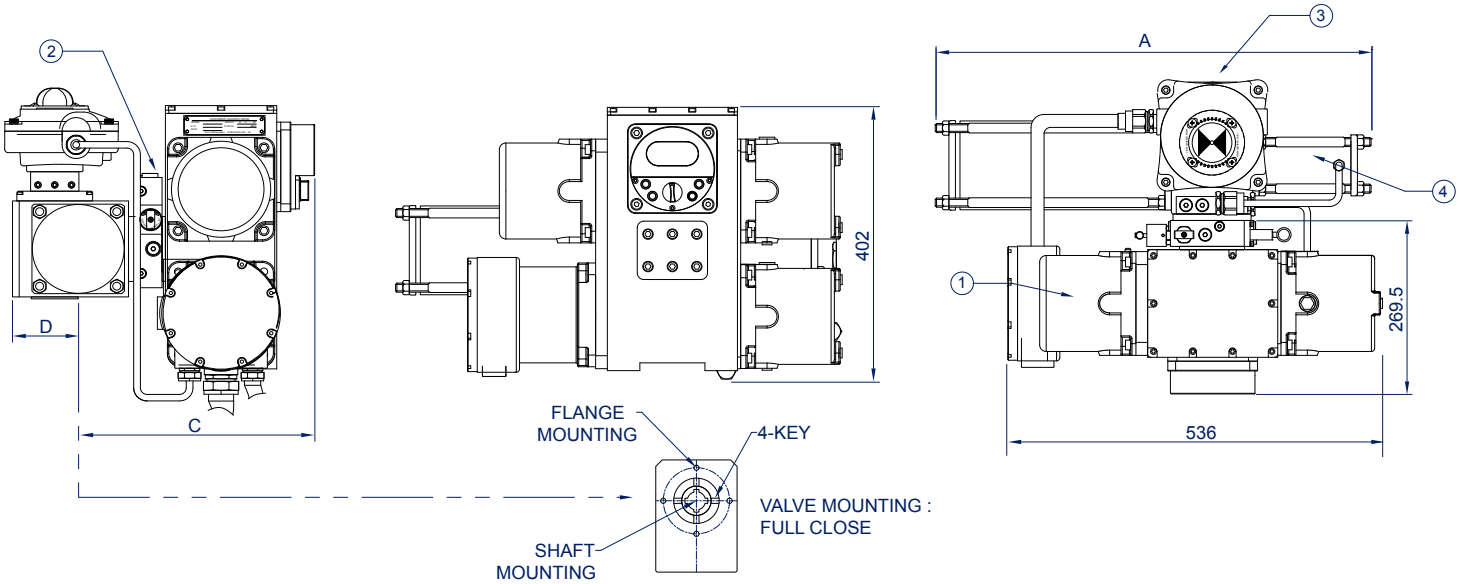
DHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator



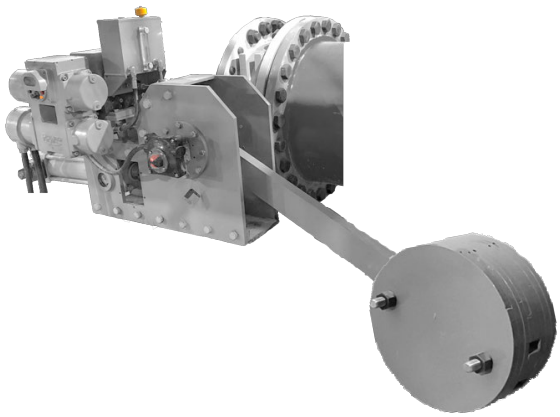
① HYDRAULIC POWER UNIT ② MANUAL HAND PUMP ③ POSITION METER ④ SPRING-RETURN CYLINDER

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	토크	600 Nm ~ 32,000 Nm[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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 파워팩[2]

DHP (Dual Hydraulic Power-pack)

2 방수/방폭 등급

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

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간[5]

Time (s)		Code
		4
Torque (Nm)	600	Emergency Fail-Close in less than 10 seconds (수충격 완화를 위한 댐핑 시간 포함)
	1,100	
	2,200	
	5,000	
	9,000	
	16,000	
	32,000	

8 Fail-Safe 방식

Code	Fail-Safe
QW	Quarter-Turn Counterweight

9 Fail-Safe 방향

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

10 토크[1]

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

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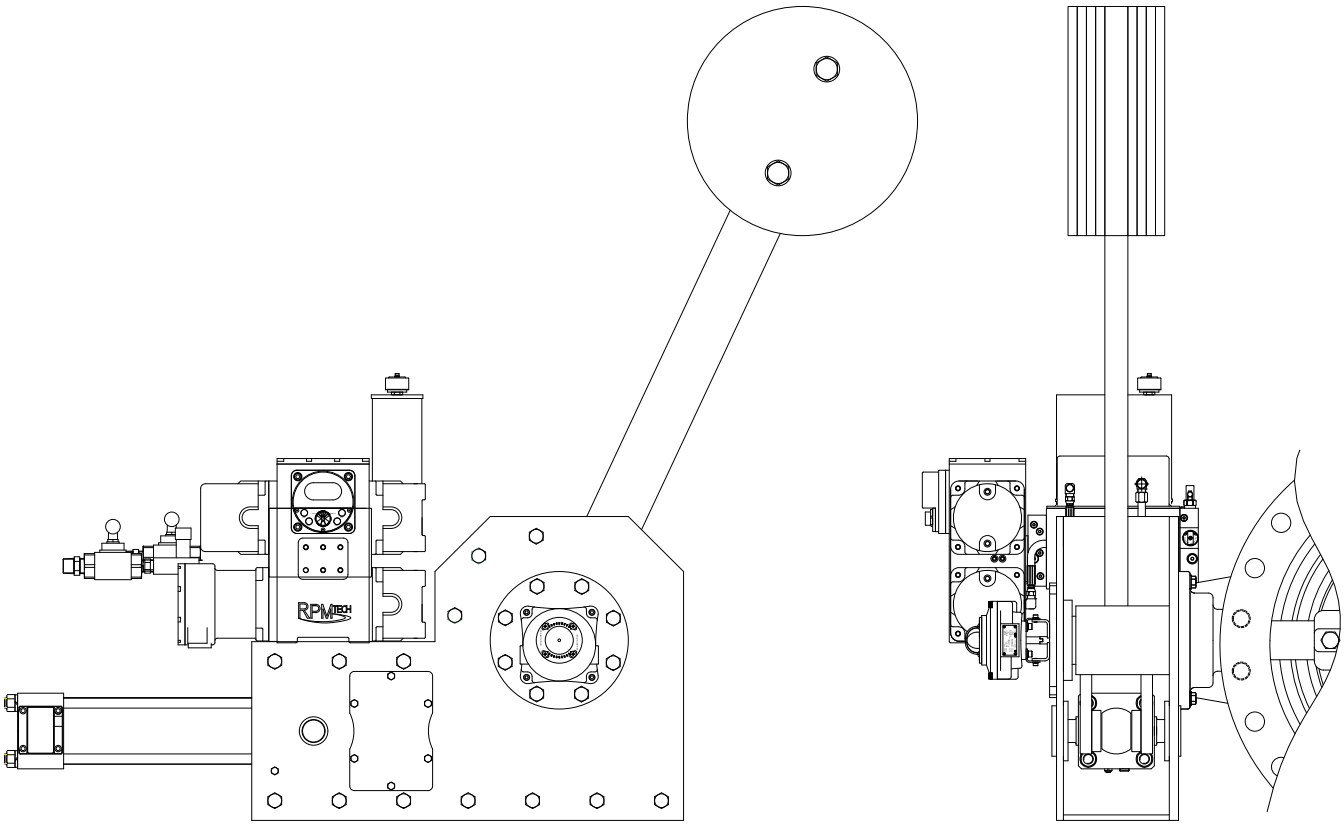
DHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator



Dimensions of the DHP Counterweight Electro-Hydraulic Quarter-Turn Valve Actuator	
Model	**Dimensions**
...	문의 바랍니다.
...	
...	

MHP Electro-Hydraulic Linear Valve Actuator

Mechanical	추력	5,000 N ~ 400,000 N[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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 파워팩[2]

MHP (Micro Hydraulic Power-pack)

2 방수/방폭 등급

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

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간

	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

8 Fail-Safe 방식

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

9 Fail-Safe 방향

Code	Fail-Safe Direction
N	Not Fail-Safe

10 추력[1]

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 스트로크

Code	Stroke
010~990	Code × 10 mm

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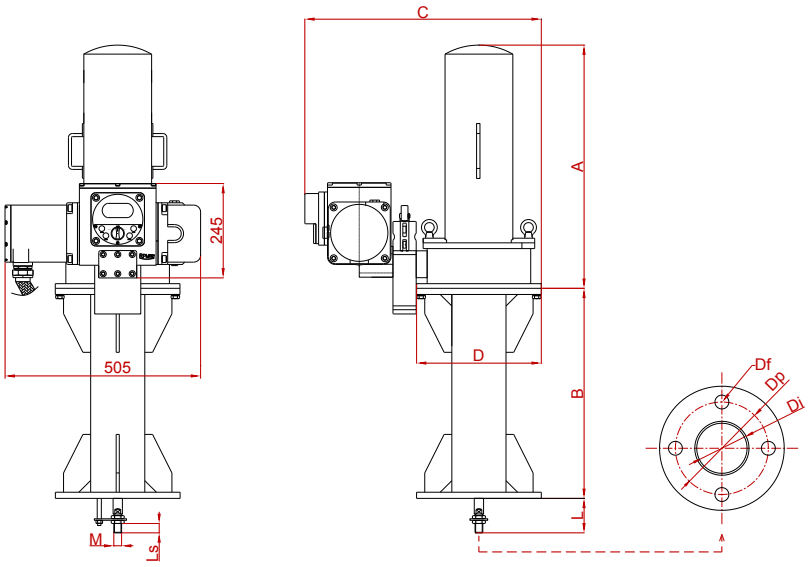
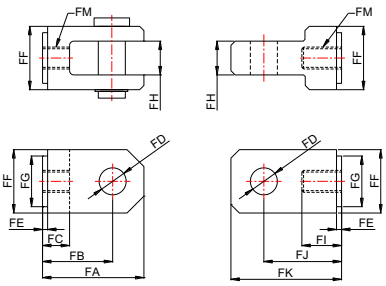
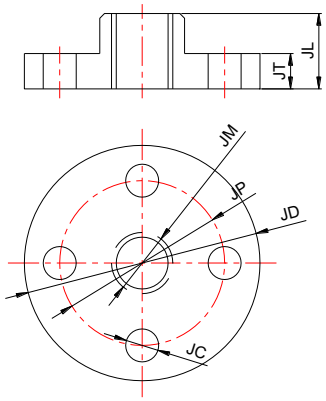


Dimensions of the MHP Electro-Hydraulic Linear Valve Actuator												
Model		Dimensions (mm)										
		A	B	C	D	L	Ls	M	ΦDi	ΦDf	# of Df	ΦDp
Single-Phase Power	MHP _ _ _ _ _ _ _ LNN0005 - _ _ _	241+B	Stroke (mm)	537	250	55	25	M16 x 1.5	132	11	4	175
	MHP _ _ _ _ _ _ _ LNN0010 - _ _ _	241+B		537	250	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

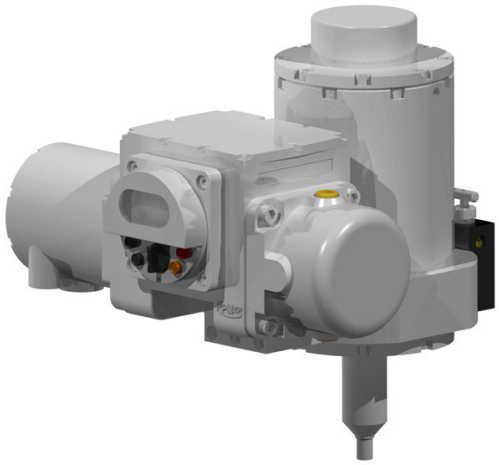


Flange Dimensions							
Model	Dimensions (mm)						
	ΦJD	ΦJP	ΦJC	# of ΦJC	JL	JT	JM
MHP _ _ _ _ _ _ _ LNN0005 - _ _ _	115	80	19	4	24	20	M16 x 1.5
MHP _ _ _ _ _ _ _ LNN0010 - _ _ _	120	85	19	4	24	20	M16 x 1.5
MHP _ _ _ _ _ _ _ LNN0020 - _ _ _	130	95	19	4	26	22	M24 x 1.5
MHP _ _ _ _ _ _ _ LNN0040 - _ _ _	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	추력	5,000 N ~ 700,000 N[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방폭 등급	Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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

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

Model Number

1 파워팩[2]

MHP (Micro Hydraulic Power-pack)

2 방폭 등급

Code	Enclosure
X	Exd II B T4 Explosion-proof

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 속도[5]

Speed Range (mm/s)		Code
		4
Thrust (N)	5,000	Emergency Fail-Close in less than 10 seconds (수충격 완화를 위한 댐핑 시간 포함)
	10,000	
	20,000	
	40,000	
	60,000	
	80,000	
	100,000	
	200,000	
	300,000	
	400,000	

8 Fail-Safe 방식

Code	Fail-Safe
LS	Linear Spring-Return Cylinder

9 Fail-Safe 방향

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

10 추력[1]

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 스트로크

Code	Stroke
010~990	Code × 1 mm

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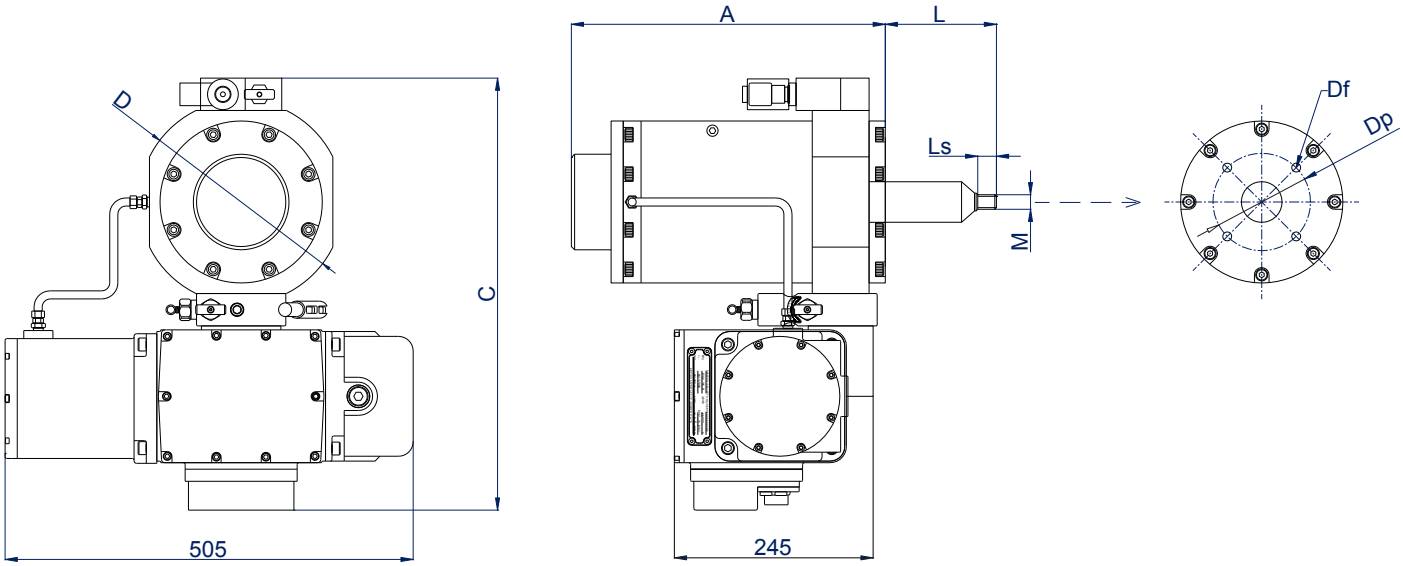
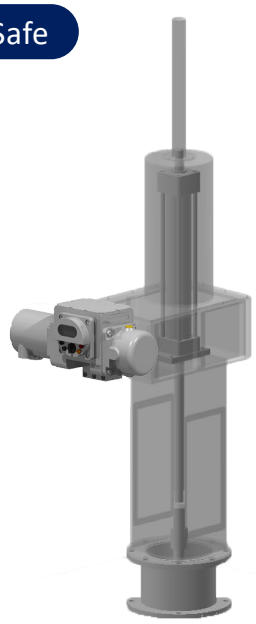
MHP Spring-Return Electro-Hydraulic Linear Valve Actuator



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	추력	5,000 N ~ 400,000 N[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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	W	C					-			

Model Number

1 파워팩[2]

MHP (Micro Hydraulic Power-pack)

2 방수/방폭 등급

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

3 전원

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

4 고급 제어 기능[3]

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

5 Communication[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간[5]

	Speed Range (mm/s)	Code 1	Code 2	Code 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

8 Fail-Safe 방식

Code	Fail-Safe
LW	Linear Self-Weight-Close

9 Fail-Safe 방향

Code	Fail-Safe Direction
C	Fail-Safe Close

10 추력[1]

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 스트로크

Code	Stroke
010~990	Code × 10 mm

1. 더 높은 토크는 문의 바랍니다.
2. Page 4: RPMTECH™ 전동 유압식 액추에이터 요약
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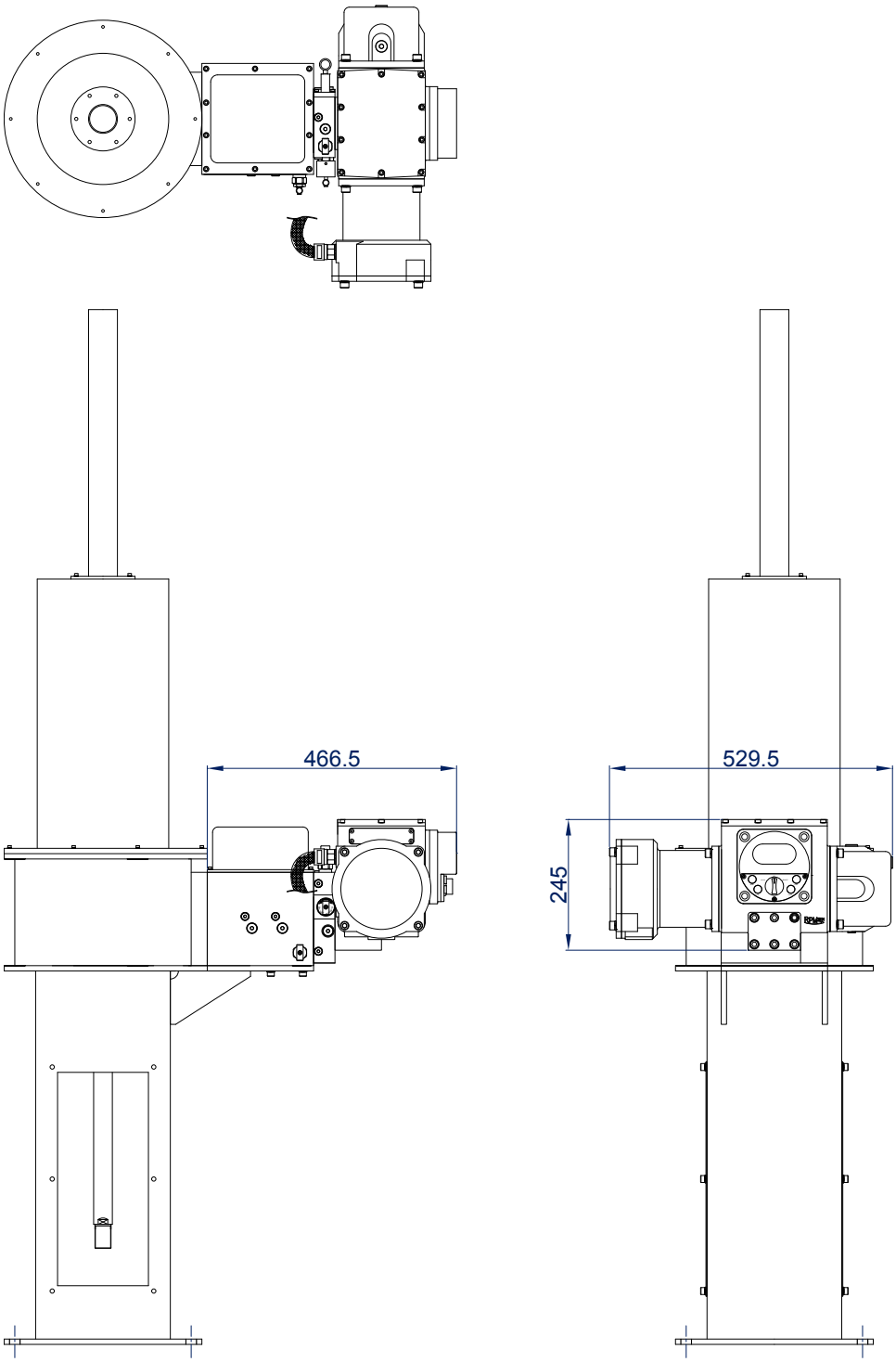
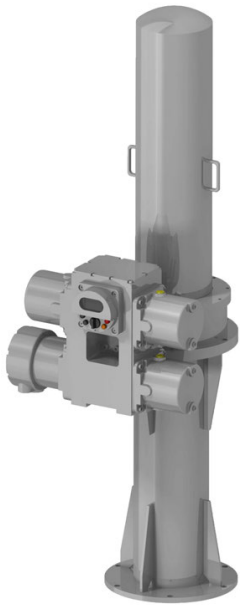
5. 자세한 비상 차단 시간은 문의 바랍니다.

MHP Emergency-Close Electro-Hydraulic Linear Valve Actuator



Dimensions of the MHP Emergency-Close Electro-Hydraulic Linear Valve Actuator	
Model	**Dimensions**
...	문의 바랍니다.
...	
...	

DHP Electro-Hydraulic Linear Valve Actuator



Mechanical	추력	5,000 N ~ 400,000 N[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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		
D	H	P					1	0	4	L	N	N					-			

Model Number

1 파워팩[2]

DHP (Dual Hydraulic Power-pack)

2 방수/방폭 등급

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

3 전원

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

4 고급 제어 기능[3]

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

5 Communication[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간

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 방식

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

9 Fail-Safe 방향

Code	Fail-Safe Direction
N	Not Fail-Safe

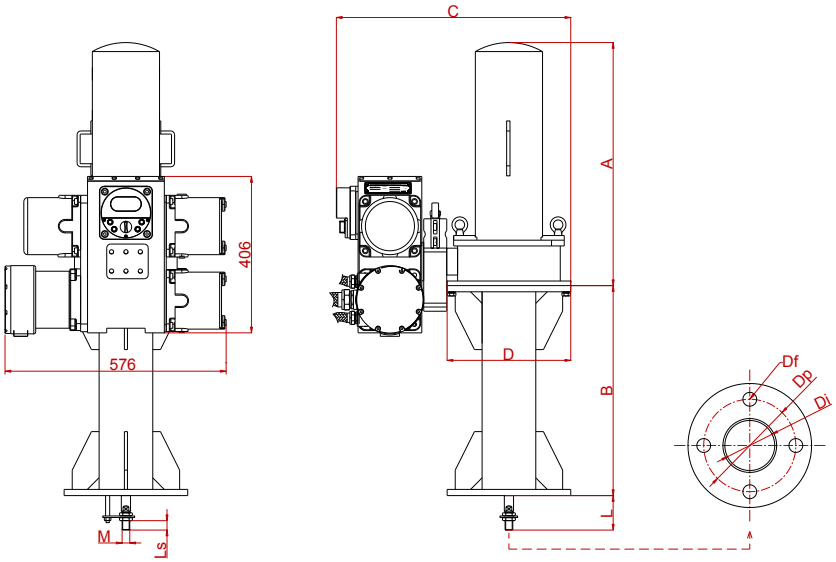
10 추력[1]

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 스트로크

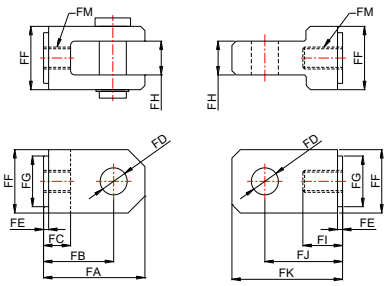
Code	Stroke
010~990	Code × 10 mm

1. 더 높은 추력은 문의 바랍니다.
2. Page 4: RPMTECH™ 전동 유압식 액추에이터 요약
3. Page 5: 고급 제어 기능
4. 이 외의 다른 통신 방식은 문의 바랍니다.

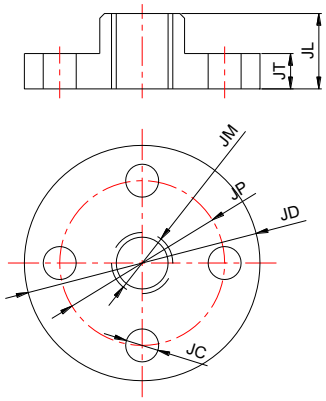


Dimensions of the MHP Electro-Hydraulic Linear Valve Actuator												
Model		Dimensions (mm)										
		A	B	C	D	L	Ls	M	ΦDi	ΦDf	# of Df	ΦDp
Single-Phase Power	MHP _ _ _ _ _ _ _ LNN0005 - _ _ _	241+B	Stroke (mm)	538	250	55	25	M16 x 1.5	132	11	4	175
	MHP _ _ _ _ _ _ _ LNN0010 - _ _ _	241+B		538	250	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

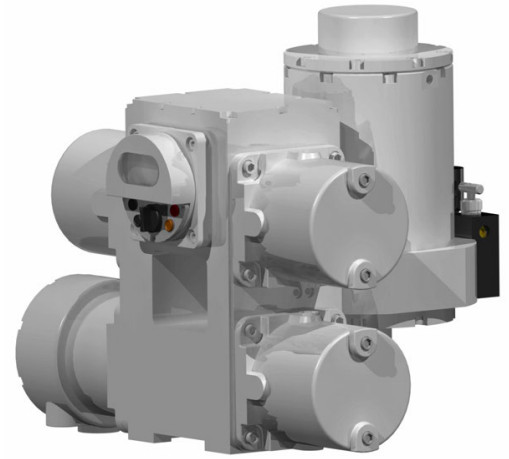


Flange Dimensions							
Model	Dimensions (mm)						
	ΦJD	ΦJP	ΦJC	# of ΦJC	JL	JT	JM
MHP _ _ _ _ _ _ _ LNN0005 - _ _ _	115	80	19	4	24	20	M16 x 1.5
MHP _ _ _ _ _ _ _ LNN0010 - _ _ _	120	85	19	4	24	20	M16 x 1.5
MHP _ _ _ _ _ _ _ LNN0020 - _ _ _	130	95	19	4	26	22	M24 x 1.5
MHP _ _ _ _ _ _ _ LNN0040 - _ _ _	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	추력	500 Nm ~ 700,000 Nm[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방폭 등급	Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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

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

Model Number

1 파워팩[2]

DHP (Dual Hydraulic Power-pack)

2 방수/방폭 등급

Code	Enclosure
X	Exd II B T4 Explosion-proof

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 속도[5]

Speed Range (mm/s)		Code
		4
Thrust (N)	5,000	Emergency Fail-Close in less than 10 seconds (수충격 완화를 위한 댐핑 시간 포함)
	10,000	
	20,000	
	40,000	
	60,000	
	80,000	
	100,000	
	200,000	
	300,000	
	400,000	

8 Fail-Safe 방식

Code	Fail-Safe
LS	Linear Spring-Return Cylinder

9 Fail-Safe 방향

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

10 추력[1]

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 스트로크

Code	Stroke
010~990	Code × 1 mm

1. 더 높은 토크는 문의 바랍니다.
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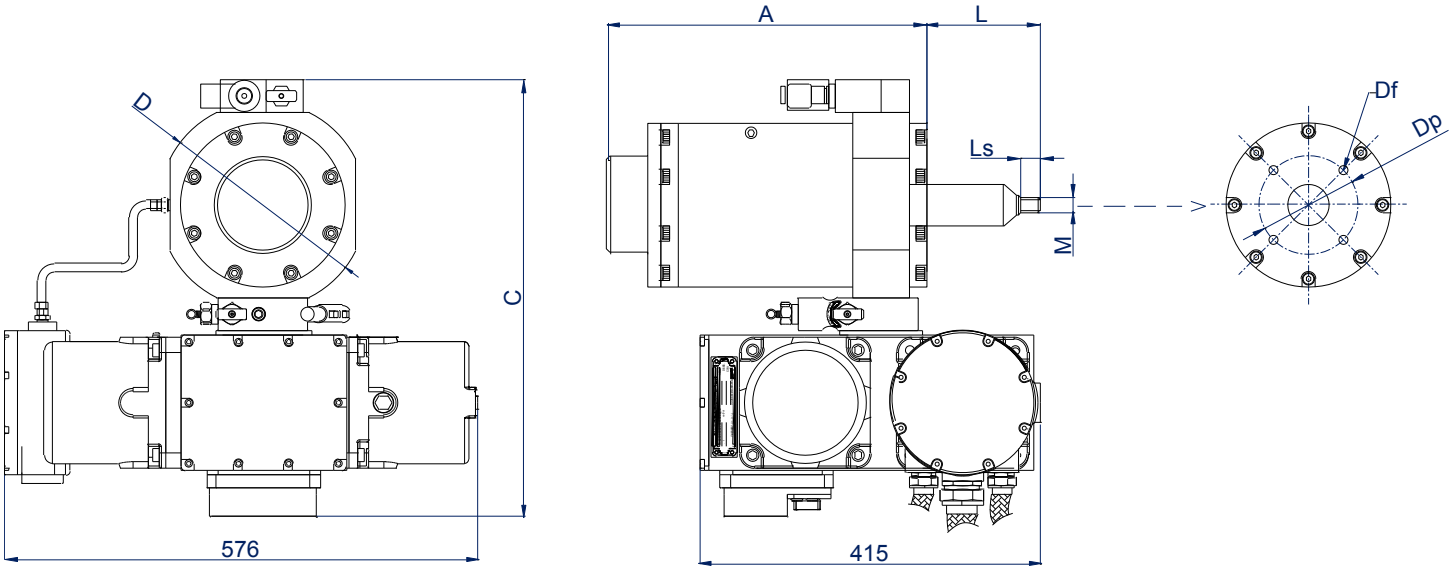
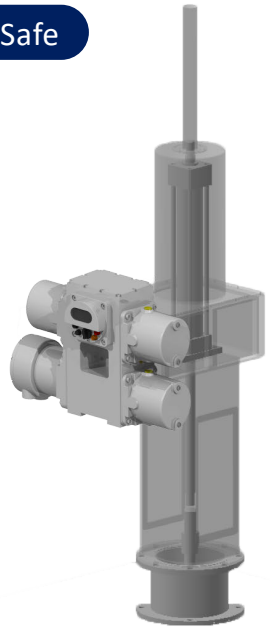
DHP Spring-Return Electro-Hydraulic Quarter-Turn Valve Actuator



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	추력	5,000 N ~ 400,000 N[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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		
D	H	P					1	0	4	L	W	C					-			

Model Number

1 파워팩[2]

DHP (Dual Hydraulic Power-pack)

2 방수/방폭 등급

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

3 전원

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

4 고급 제어 기능[3]

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

5 Communication[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간[5]

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 방식

Code	Fail-Safe
LW	Linear Self-Weight-Close

9 Fail-Safe 방향

Code	Fail-Safe Direction
C	Fail-Safe Close

10 추력[1]

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 스트로크

Code	Stroke
010~990	Code × 10 mm

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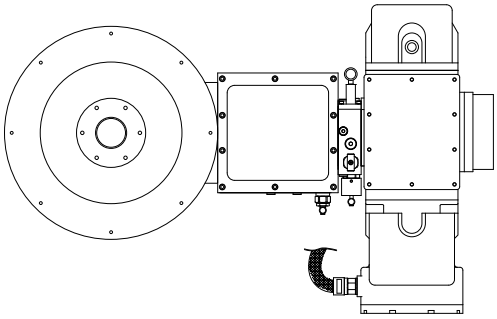
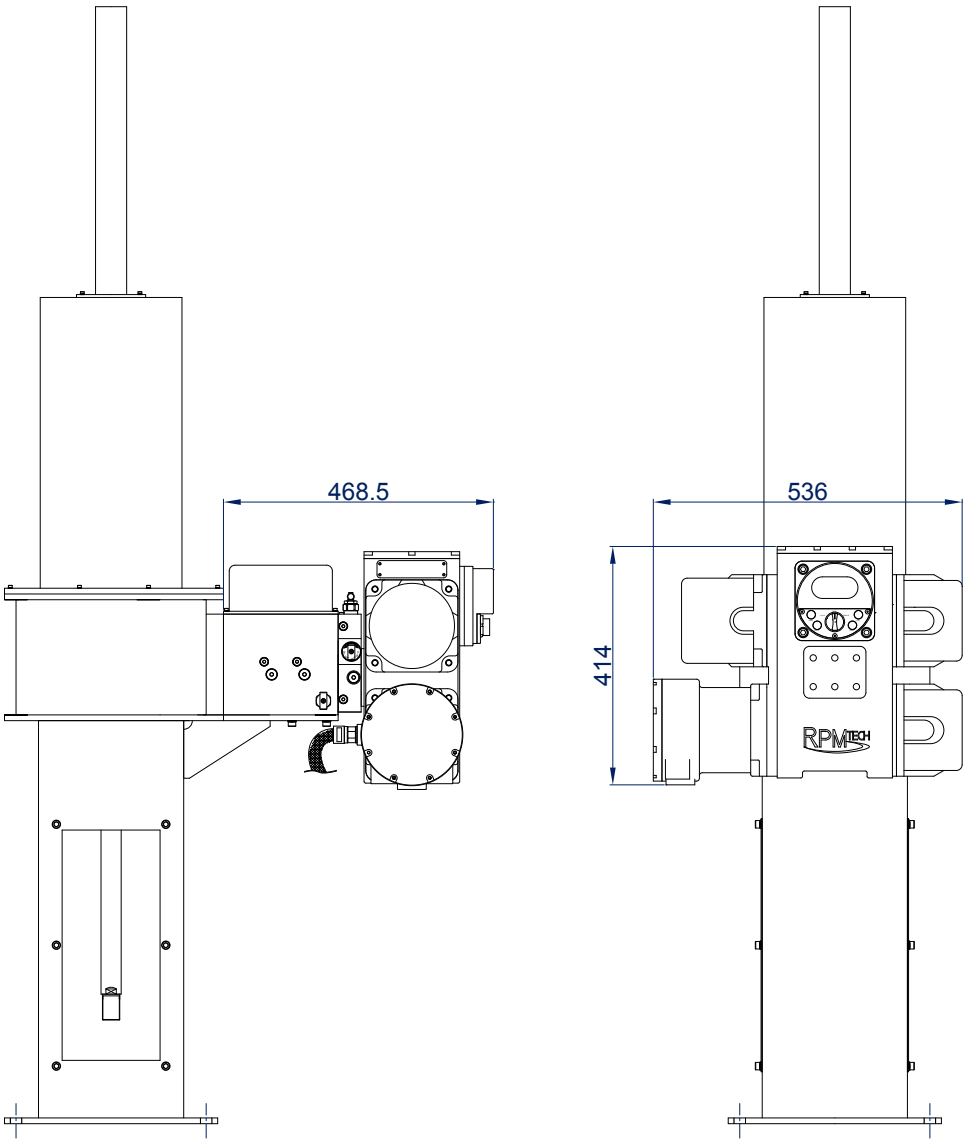
5. 자세한 비상 차단 시간은 문의 바랍니다.

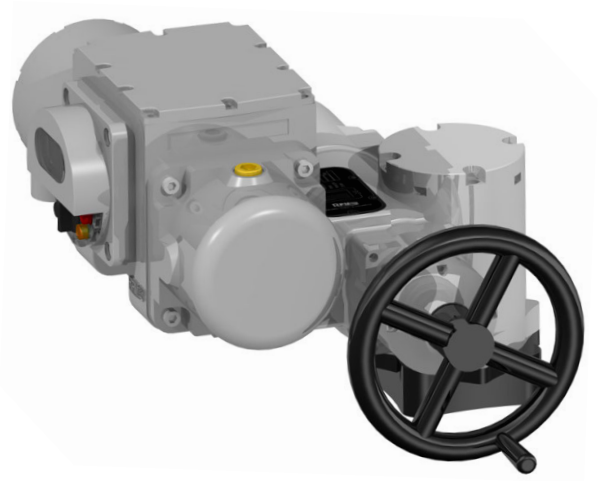
DHP Emergency-Close Electro-Hydraulic Linear Valve Actuator





Dimensions of the DHP Emergency-Close Electro-Hydraulic Linear Valve Actuator	
Model	**Dimensions**
...	문의 바랍니다.
...	
...	

MHP Electro-Hydraulic Multi-Turn Valve Actuator



Mechanical	토크	90 Nm ~ 420 Nm[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수 등급	IP68 Water-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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 파워팩[2]

MHP (Micro Hydraulic Power-pack)

2 방수 등급

Code	Enclosure
W	IP 68 Water-proof

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 속도

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

8 Fail-Safe 방식

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

9 Fail-Safe 방향

Code	Fail-Safe Direction
N	Not Fail-Safe

10 토크[1]

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

1. 더 높은 토크는 문의 바랍니다.
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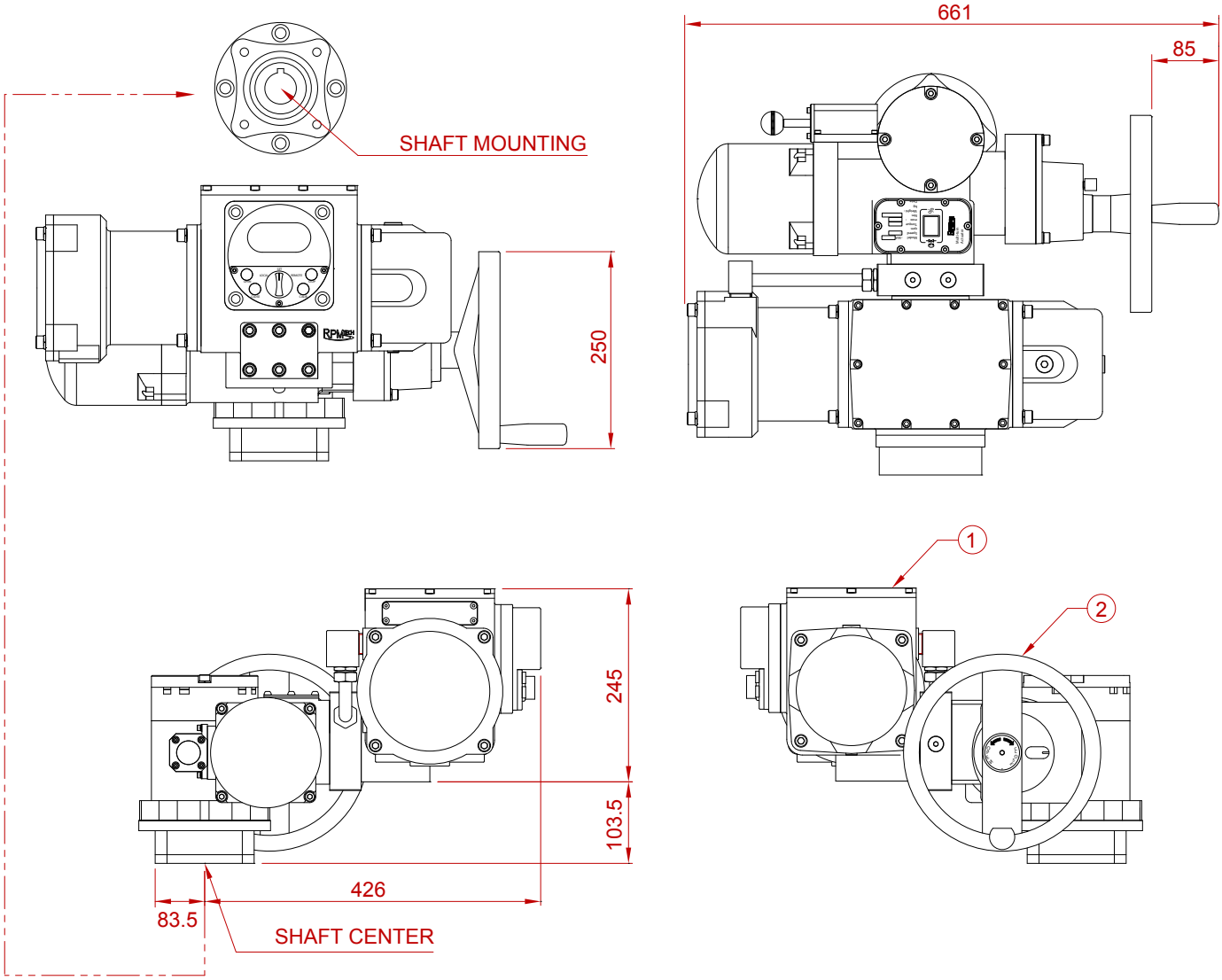
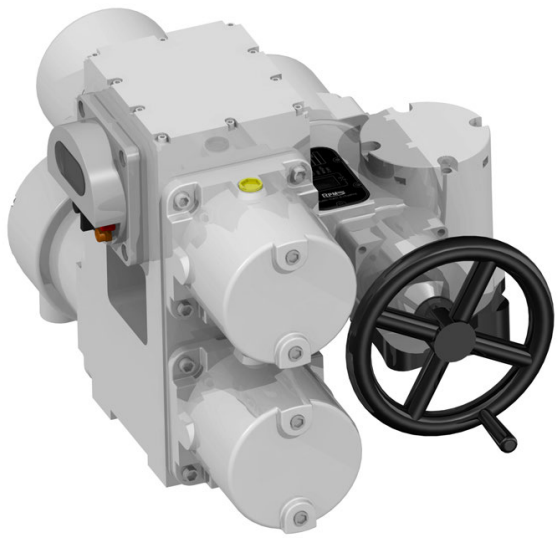


① HYDRAULIC POWER UNIT ② MANUAL HAND PUMP

Dimensions of the MHP Electro-Hydraulic Multi-Turn Valve Actuator	
Model	**Dimensions**
...	전 모델 규격 동일
...	
...	

DHP Electro-Hydraulic Multi-Turn Valve Actuator



Mechanical	토크	90 Nm ~ 420 Nm[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수 등급	IP68 Water-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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 파워팩[2]

DHP (Dual Hydraulic Power-pack)

2 방수 등급

Code	Enclosure
W	IP 68 Water-proof

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간

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

8 Fail-Safe 방식

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

9 Fail-Safe 방향

Code	Fail-Safe Direction
N	Not Fail-Safe

10 토크[1]

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

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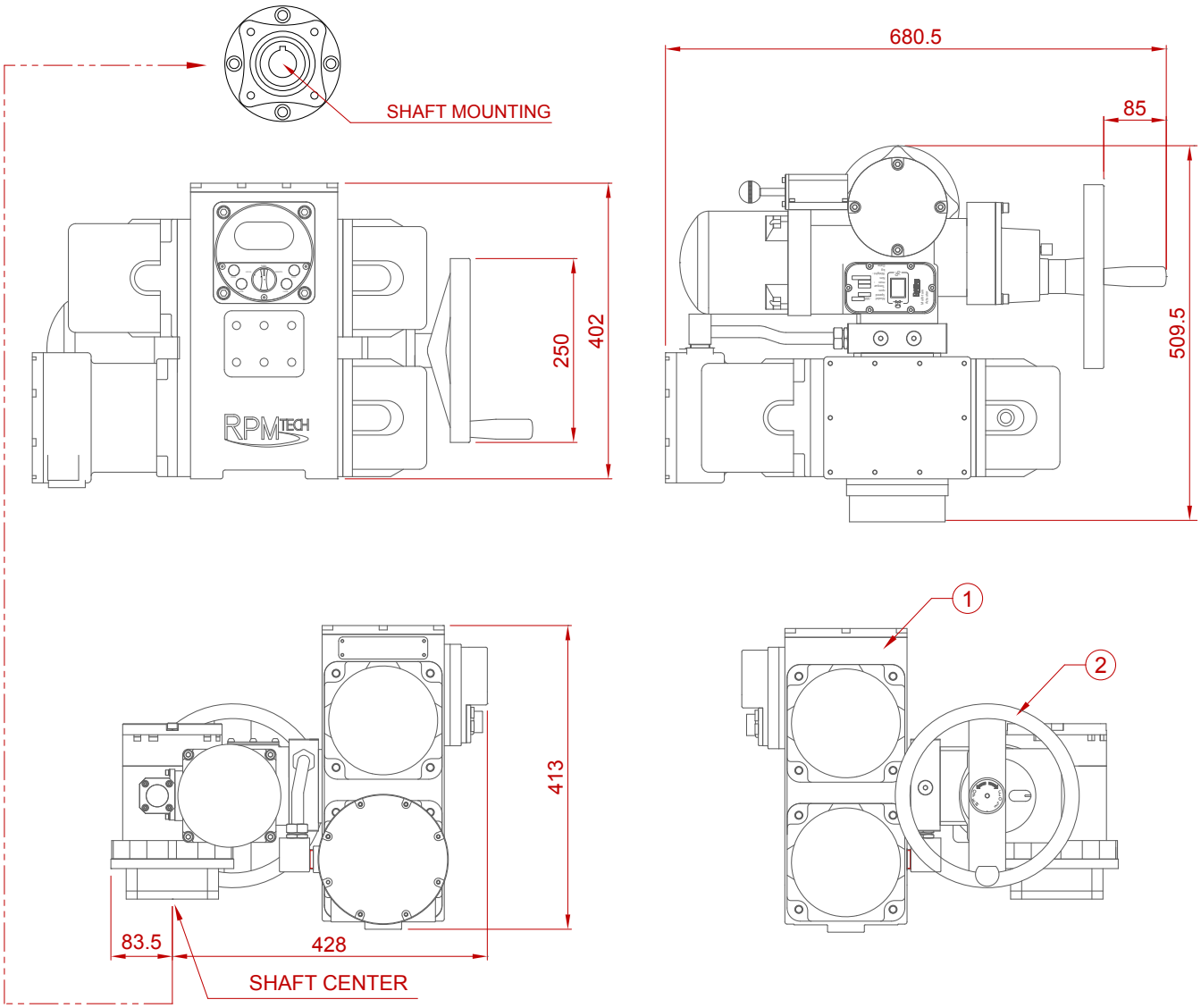
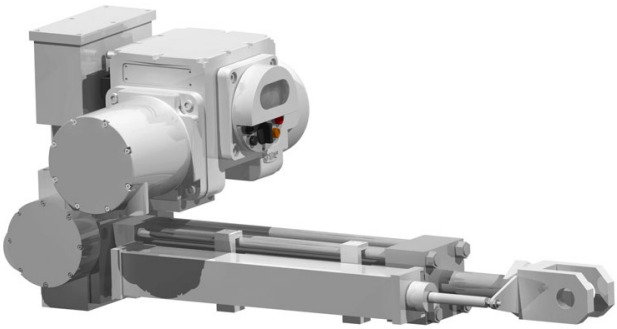


① HYDRAULIC POWER UNIT ② MANUAL HAND PUMP

Dimensions of the DHP Electro-Hydraulic Multi-Turn Valve Actuator	
Model	**Dimensions**
...	전 모델 규격 동일
...	
...	

MHP Electro-Hydraulic Power Cylinder



Mechanical	추력	5,000 N ~ 400,000 N[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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 파워팩[2]

DHP (Dual Hydraulic Power-pack)

2 방수/방폭 등급

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

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간

	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

8 Fail-Safe 방식

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

9 Fail-Safe 방향

Code	Fail-Safe Direction
N	Not Fail-Safe

10 추력[1]

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 스트로크

Code	Stroke
010~990	Code × 10 mm

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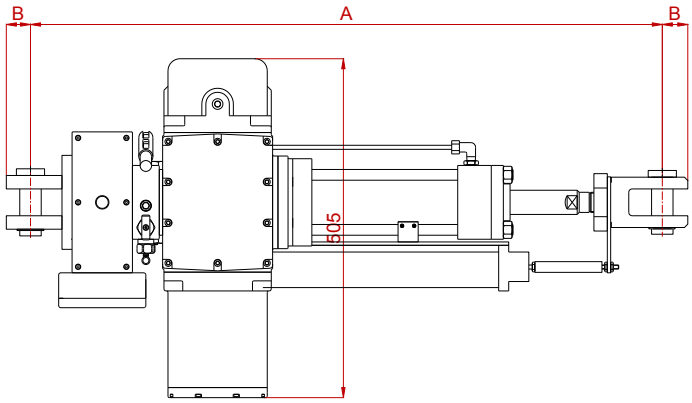
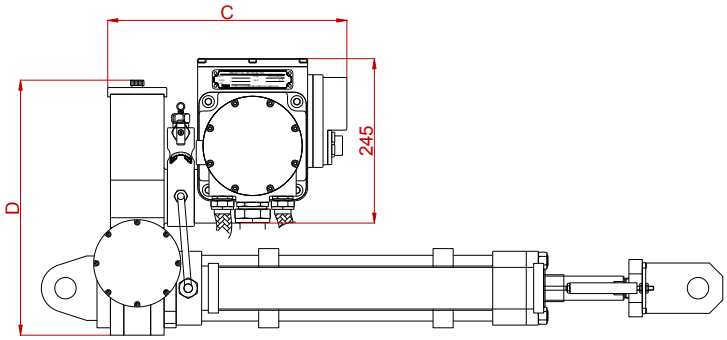
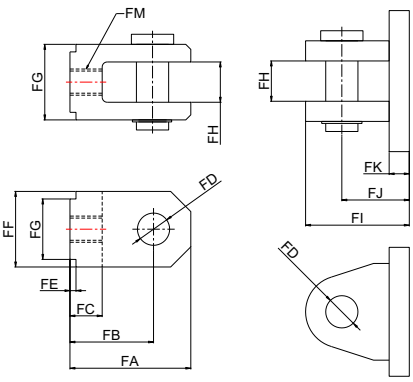
MHP Electro-Hydraulic Power Cylinder



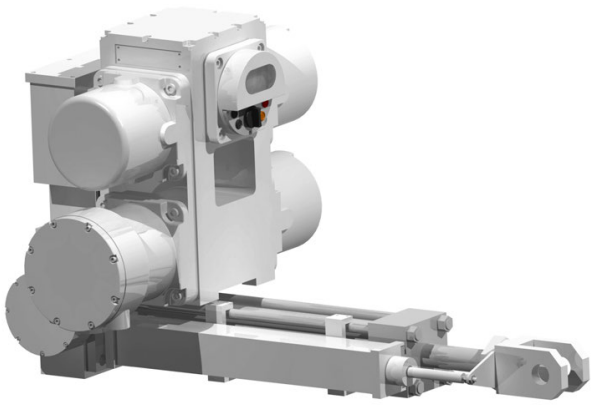


Dimensions of the MHP Electro-Hydraulic Power Cylinder													
Model	A (by stroke) (mm)										B (mm)	C (mm)	D (mm)
	200	300	400	500	600	800	1,000	1,500	2,000	3,000			
MHP _ _ _ _ _ _ _ CNN0005 - _ _ _	752	892	1022	1152	1288	1554	1802	2437	3042	4342	20	319	385
MHP _ _ _ _ _ _ _ CNN0010 - _ _ _	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	추력	5,000 N ~ 400,000 N[1]
	유압유	ISO VG46 (선택: SYNTH ISO VG46)
Electrical	모터	0.6 kW Brushless DC Motor
	전원	Single Phase AC 110 ~ 220 V (±10%) 50/60 Hz Three Phase AC 380 ~ 460 V (±10%) 50/60 Hz
	통신	Dry Contact, Analog (4~20mA), Profibus, etc.
Environmental	진동 특성	66.7m/s^2 at 33.3 Hz
	작동 온도	-20 ~ 60˚C
	방수/방폭 등급	IP68 Water-proof or Exd II B T4 Explosion-proof
Exterior Paint	페인트	Powder Coating
	색	KCC PX4327-LPG Gray
	페인트 두께	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		
D	H	P					1	0	4	C	N	N					-			

Model Number

1 파워팩[2]

DHP (Dual Hydraulic Power-pack)

2 방수/방폭 등급

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

3 전원

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

4 고급 제어 기능[3]

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

5 통신[4]

Code	Communication
N	AIO/DIO
P	Profibus

6 해상도

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

7 작동 시간

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

8 Fail-Safe 방식

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

9 Fail-Safe 방향

Code	Fail-Safe Direction
N	Not Fail-Safe

10 추력[1]

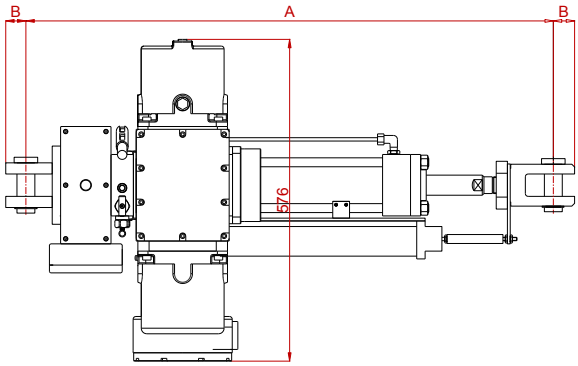
Code	Thrust	
	N	lbf
0005	5,000	1,124
0010	10,000	2,248
0020	20,000	4,496
0040	40,000	8,992
0060	60,000	13,488
0080	80,000	17,984
0100	100,000	22,480
0200	200,000	44,961
0300	300,000	67,442
0400	400,000	89,923

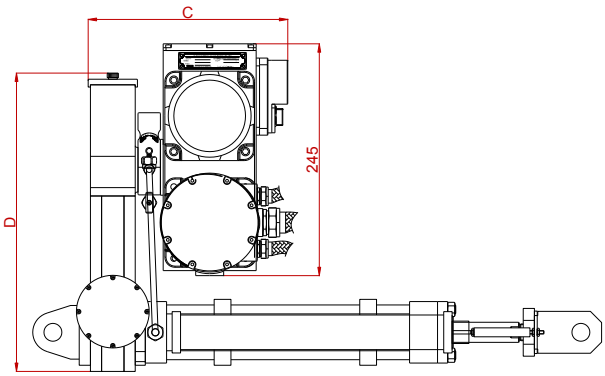
11 스트로크

Code	Stroke
010~990	Code × 10 mm

1. 더 높은 추력은 문의 바랍니다.
2. Page 4: RPMTECH™ 전동 유압식 액추에이터 요약
3. Page 5: 고급 제어 기능
4. 이 외의 다른 통신 방식은 문의 바랍니다.

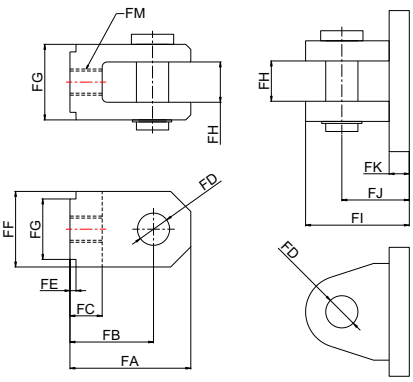
DHP Electro-Hydraulic Power Cylinder



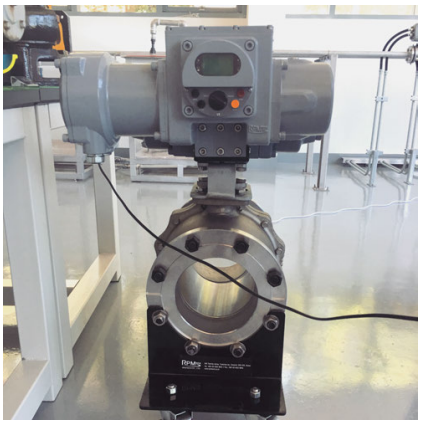
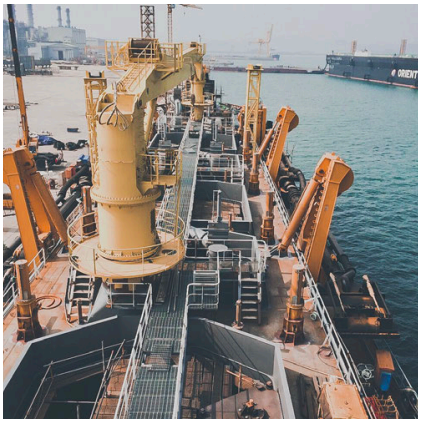
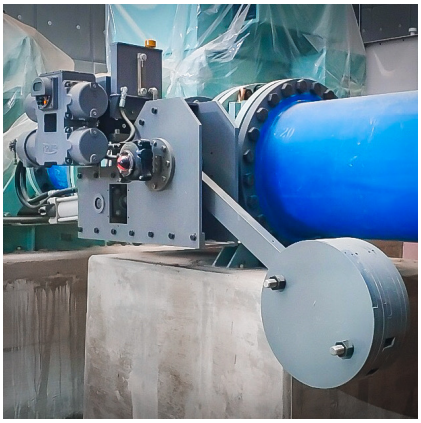


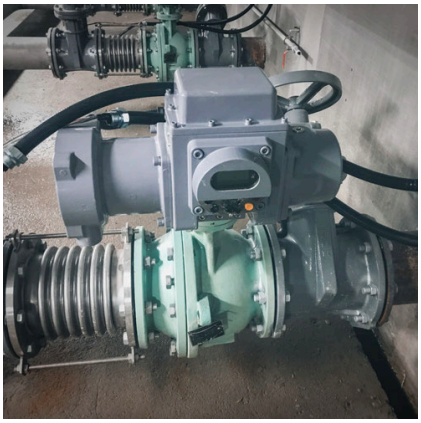
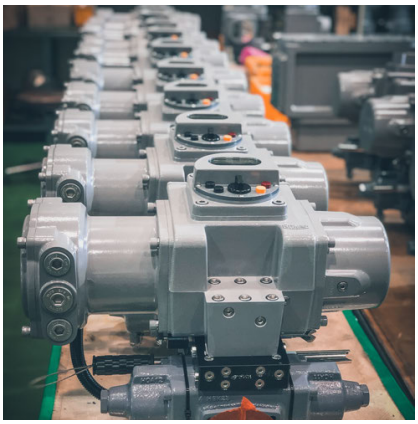
Dimensions of the MHP Electro-Hydraulic Power Cylinder													
Model	A (by stroke) (mm)										B (mm)	C (mm)	D (mm)
	200	300	400	500	600	800	1,000	1,500	2,000	3,000			
DHP _ _ _ _ _ _ _ CNN0005 - _ _ _	752	892	1022	1152	1288	1554	1802	2437	3042	4342	20	319	385
DHP _ _ _ _ _ _ _ CNN0010 - _ _ _	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

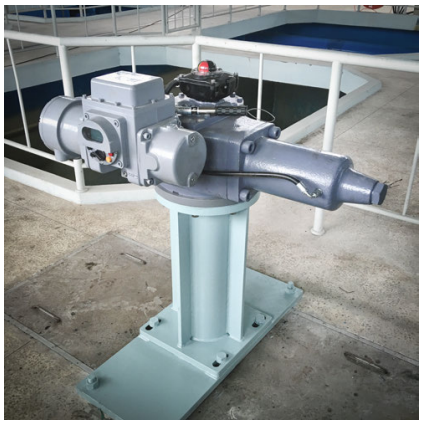
Dimensions for Knuckles for Valve Connection: Y-Knuckle (Left) and I-Knuckle (Right)												
Model	Dimensions (mm)											
	FA	FB	FC	ΦFD	FE	FF	ΦFG	FH	FI	FJ	FK	FM
DHP _ _ _ _ _ _ _ LNN0005 - _ _ _	70	50	20	20	5	40	32	20	60	40	10	M16 x 1.5
DHP _ _ _ _ _ _ _ LNN0010 - _ _ _	80	56	20	24	5	48	32	24	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

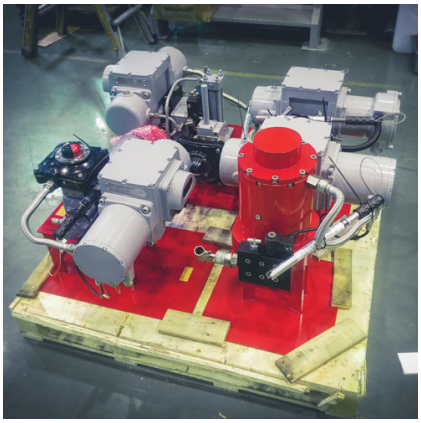


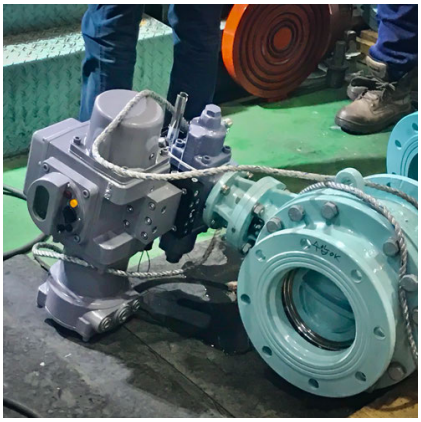
사진

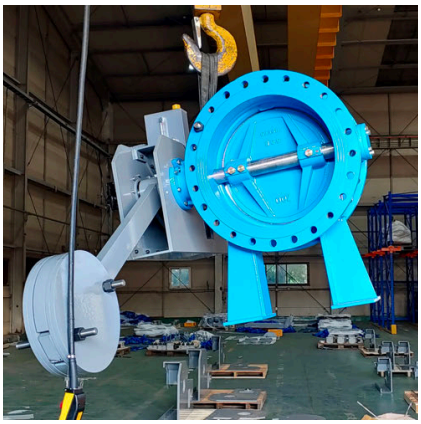




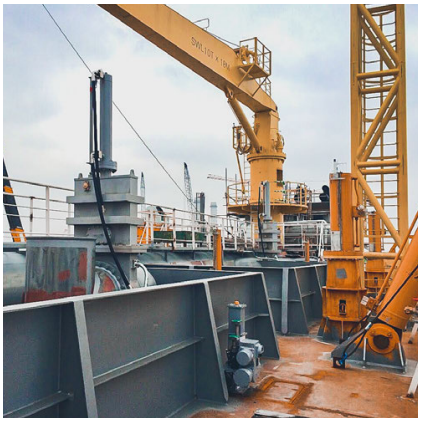



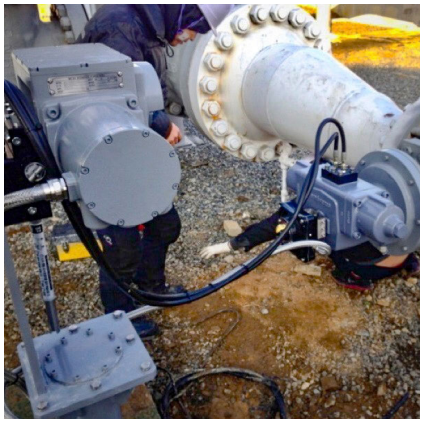












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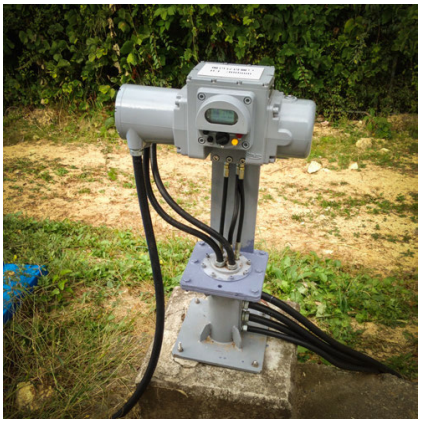

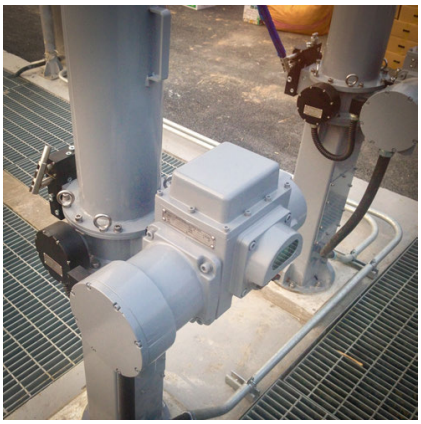

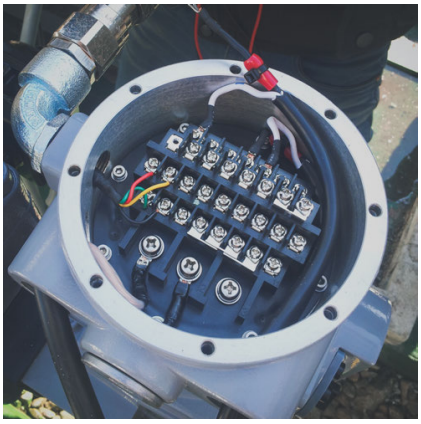

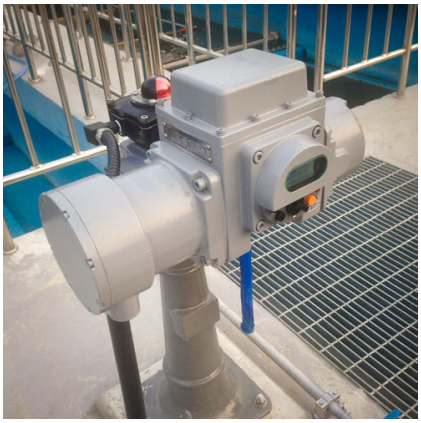

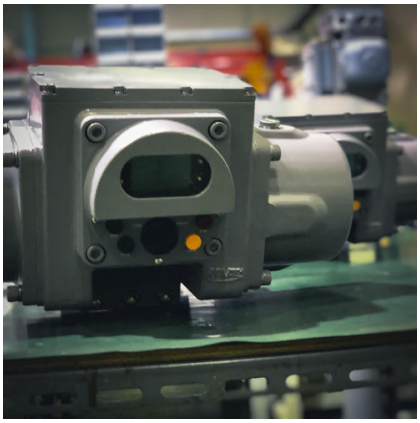
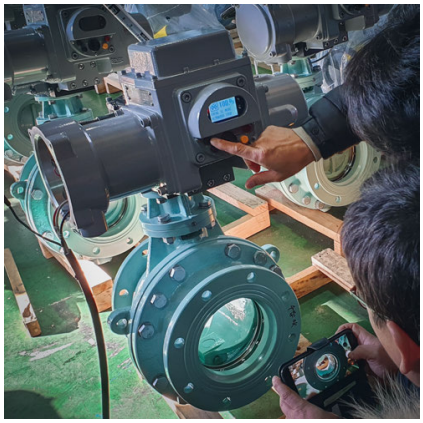

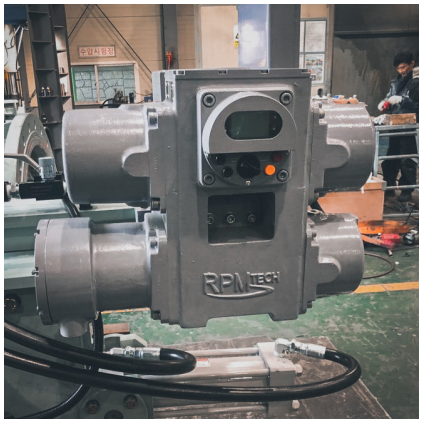

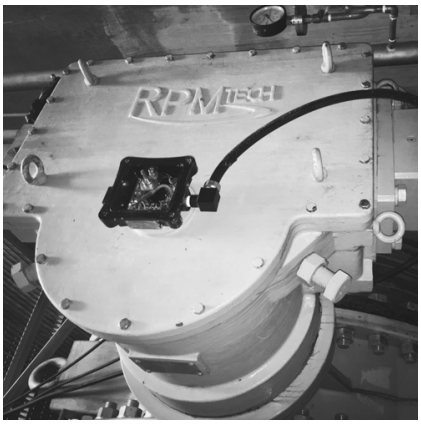

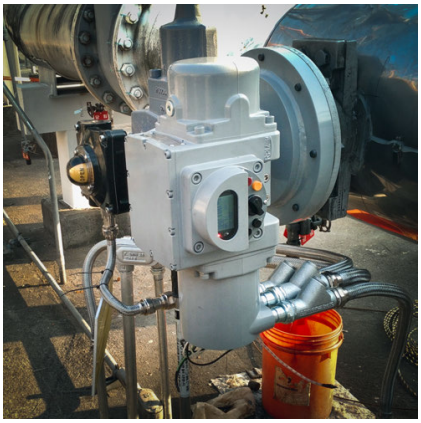

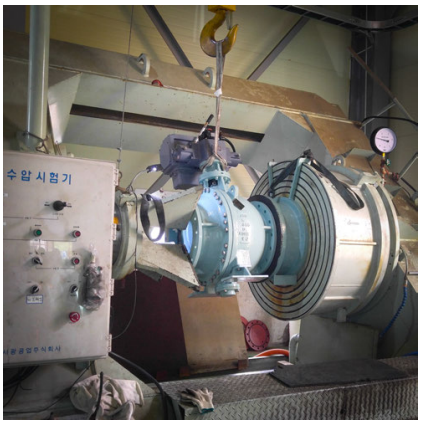

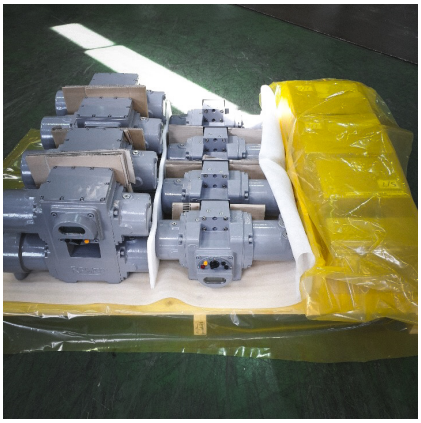

PCV

특허 및 인증서

특허증
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안전인증서
CERTIFICATE OF CONFORMITY
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조달청장

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