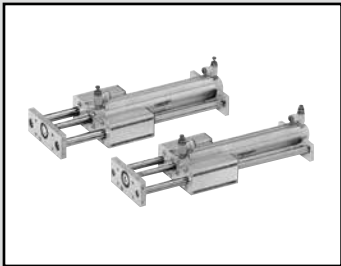


LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



Hybrid robot
Single axis unit

HRL-1 Series

● Load capacity: 5/10/15/25/50/65 kg



Specifications

Item		HRL-1□-05	HRL-1□-10	HRL-1□-15	HRL-1□-15H	HRL-1□-25	HRL-1□-50	HRL-1□-65
Load capacity (vertical) *1 kg		5	10	15		25	50	65
Basic cylinder		SCM-00-20D	SCM-00-25D	SCM-00-32D		SCM-00-40D	SCM-00-50D	SCM-00-63B
Bore size mm		20	25	32		40	50	63
Guide rod diameter mm		13	13	16	20	20	25	30
Speed mm/s		50 to 500						
Working pressure MPa		0.3 (≈44 psi, 3 bar) to 0.7 (≈100 psi, 7 bar)						
Adjustable stroke range *2 mm		0 to -10 mm (push)						
Shock absorber *3		NCK-00-0.7		NCK-00-1.2		NCK-00-12		
Product weight kg	Basic	2 + (0.0033 × stroke length)	2.1 + (0.0037 × stroke length)	2.8 + (0.0051 × stroke length)	2.9 + (0.0069 × stroke length)	10.8 + (0.0081 × stroke length)	11.9 + (0.0122 × stroke length)	13.3 + (0.02 × stroke length)
	Long body	2.3 + (0.0033 × stroke length)	2.4 + (0.0037 × stroke length)	3.1 + (0.0051 × stroke length)	3.2 + (0.0069 × stroke length)	12.5 + (0.0081 × stroke length)	13.6 + (0.0122 × stroke length)	15+(0.02 × stroke length)
Movable part weight kg	Basic	0.9 + (0.0025 × stroke length)	0.9 + (0.0027 × stroke length)	1.3 + (0.0041 × stroke length)	1.6 + (0.0059 × stroke length)	4.1 + (0.0066 × stroke length)	5.2 + (0.0102 × stroke length)	6.1 + (0.0137 × stroke length)
	Long body	1.0 + (0.0025 × stroke length)	1.0 + (0.0027 × stroke length)	1.5 + (0.0041 × stroke length)	1.8 + (0.0059 × stroke length)	4.4 + (0.0066 × stroke length)	5.7 + (0.0102 × stroke length)	6.8 + (0.0137 × stroke length)
Speed controller *4		SC3W-6-6				SC3W-6-8	SC3W-8-8	

- *1 : Load capacity varies with air pressure, speed and absorption energy. (Value is for reference.)
- *2 : Adjustable stroke is not available for pulled side.
- *3 : The shock absorber is built into the body. Use within the following allowable shock absorber tolerance values at the working speed and working air pressure.
- HRL-1□F-05/10/15/15H Pull... 70% or less
 - HRL-1□F-25/50/65 Pull... 65% or less
 - Other than the above: 74% or less
- *4 : The speed controller is included.

Switch specifications

- 1-color/2-color display/for AC magnetic field proof

Item	Proximity 2-wire			Proximity 3-wire			Reed 2-wire				Proximity 2-wire
	T2H/T2V	T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV	T3YH/T3YV	T0H/T0V		T5H/T5V		T2YD (*4) T2YDT
Applications	Dedicated for programmable controller			For programmable controller, relay			For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller
Output method	-			NPN output	PNP output	NPN output	-				-
Pwr. supp. V.	-			10 to 28 VDC			-				-
Load voltage	10 to 30 VDC			30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	24 VDC ±10%
Load current	5 to 20 mA (*3)			100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 20 mA
Indicator lamp	LED (Lit when ON)		Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		-		Red/green LED (Lit when ON)
Leakage current	1 mA or less			10 μA or less			0 mA				1 mA or less
Weight	1 m:18 g		1 m:33 g	1 m:18 g		1 m:33 g	1 m:18 g				1 m:61 g
	3 m:49 g		3 m:87 g	3 m:49 g		3 m:87 g	3 m:49 g				3 m:166 g
	5 m:80 g		5 m:142 g	5 m:80 g		5 m:142 g	5 m:80 g				5 m:272 g

- *1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.
- *2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.
- *3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
- *4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

How to order

Without switch *1

HRL-1 **L** - **05** - **350** - **Q**

With switch

HRL-1 **L** - **05** - **350** - **Q** - **T0H3** - **R**

A Basic shape

F Switch quantity

B Load capacity

C Stroke length

D Position locking mechanism
*2

E Switch model No.
* indicates the lead wire length.

⚠ Precautions for model No. selection

*1 : When without switch is selected, with/without cylinder switch rail depends on whether position locking is selected.
Without position locking mechanism: Without switch rail
With position locking mechanism: With switch rail

*2 : The position locking mechanism can be installed on the head side of the cylinder only.

[Example of model No.]

HRL-1L-05-350-Q-T0H3-R

Model: Hybrid robot HRL-1 Series

A Basic shape : Long body

B Load capacity : 5 kg

C Stroke length : 350 mm

D Position locking mechanism : With

E Switch model No. : Reed T0H switch, lead wire 3 m

F Switch quantity : 1 on rod side

Specifications for rechargeable battery

(Catalog No. CC-1226A)

● Design compatible with rechargeable battery manufacturing process.

HRL-1 - ... - **P4***

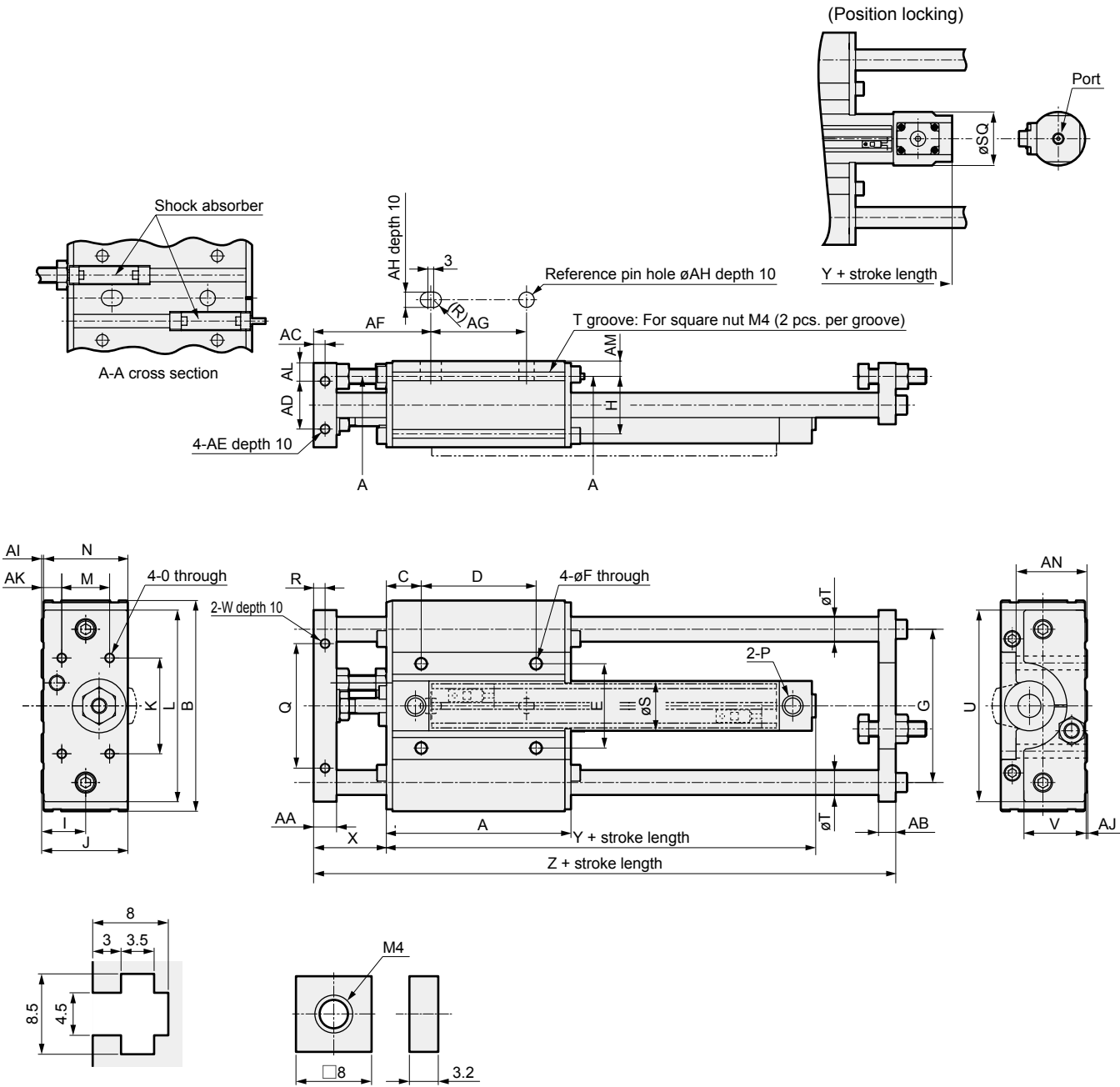
Code	Description					
A Basic shape						
Blank	Basic					
L	Long body					
F	Basic front flange					
LF	Long body front flange					
B Load capacity (vertical)						
05	5 kg					
10	10 kg					
15	15 kg					
15H						
25	25 kg					
50	50 kg					
65	65 kg					
C Stroke length (mm)						
[Basic body shape]						
50, 75, 100, 125, 150, 200, 250, 300						
[Long body shape]						
350, 400, 450, 500, 550, 600						
D Position locking mechanism						
Blank	Without					
Q	With					
E Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T2H*	T2V*	Proximity		●	1-color display	2-wire
T3H*	T3V*			●		3-wire
T3PH*	T3PV*			●	1-color display	3-wire
T2YH*	T2YV*			●	2-color display	2-wire
T3YH*	T3YV*			●		3-wire
T2YD*	-			●	2-color display	2-wire
T2YDT*	-			●	AC magnetic field	
T2JH*	T2JV*			●	1-color display off-delay	2-wire
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
F Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
T	3					

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

HRL-1 Series

Dimensions

● HRL-1-05 to 15H (basic body)



T groove section dimension

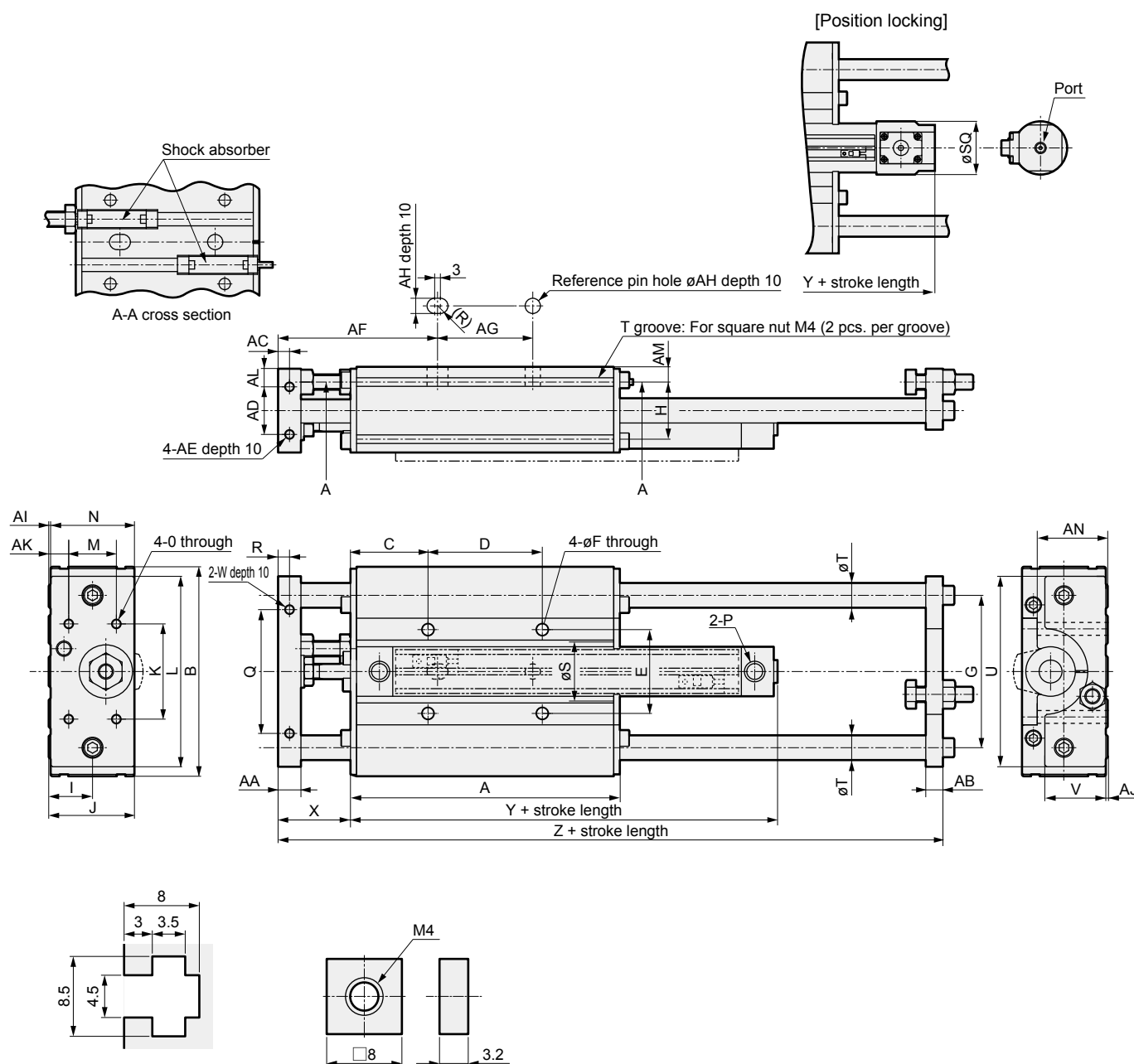
Integrated square nut dimension

Model No.	Stroke range (mm)		A	AA	AB	AC	AD	AE	AF	AG	AH		AI	AJ	AK	AL	AM	AN	B	C	D	E	F						
HRL-1-05	50,75		96.4	12	9	6	25	M5	61.2	50	8 ^{+0.03} ₀		1	1	10.5	9.5	8	37	110	18.2	60	44	6						
-10	100,125																		130			52	7						
-15	150,200																												
-15H	250,300																												
Model No.	G	H	I	J	K	L	M	N	O	P	Q	R	S	SQ	T	U	V	W	X	Y		Z							
HRL-1-05	80	30	23	45	50	100	25	44	M5	Rc1/8	65	6	26	30	13	100	32	M5	38	No position locking	74.2	94.2	154						
-10					60	120							31	35						With position locking	96.2								
-15	94					45							75	6	38	38.1	16			120	38	76.2		96.2					
-15H															20	20	96.2												

Dimensions



- HRL-1L-05 to 15H (long body)



T groove section dimension

Integrated square nut dimension

Model No.	Stroke range (mm)		A	AA	AB	AC	AD	AE	AF	AG	AH		AI	AJ	AK	AL	AM	AN	B	C	D	E	F	
HRL-1L-05	350,400		141.4	12	9	6	25	M5	83.7	50	8 ^{+0.03} ₀		1	1	10.5	9.5	8	37	110	40.7	60	44	6	
-10	450,500		151.4						88.7										8	130		45.7	52	7
-15	550,600																							
-15H																								
Model No.	G	H	I	J	K	L	M	N	O	P	Q	R	S	SQ	T	U	V	W	X	Y		Z		
HRL-1L-05	80	30	23	45	50	100	25	44	M5	Rc1/8	65	6	26	30	13	100	32	M5	38	No position locking	With position locking	199		
-10					31	35							74.2	94.2										
-15					94	16							120	38						76.2	96.2			
-15H						20							120	38										

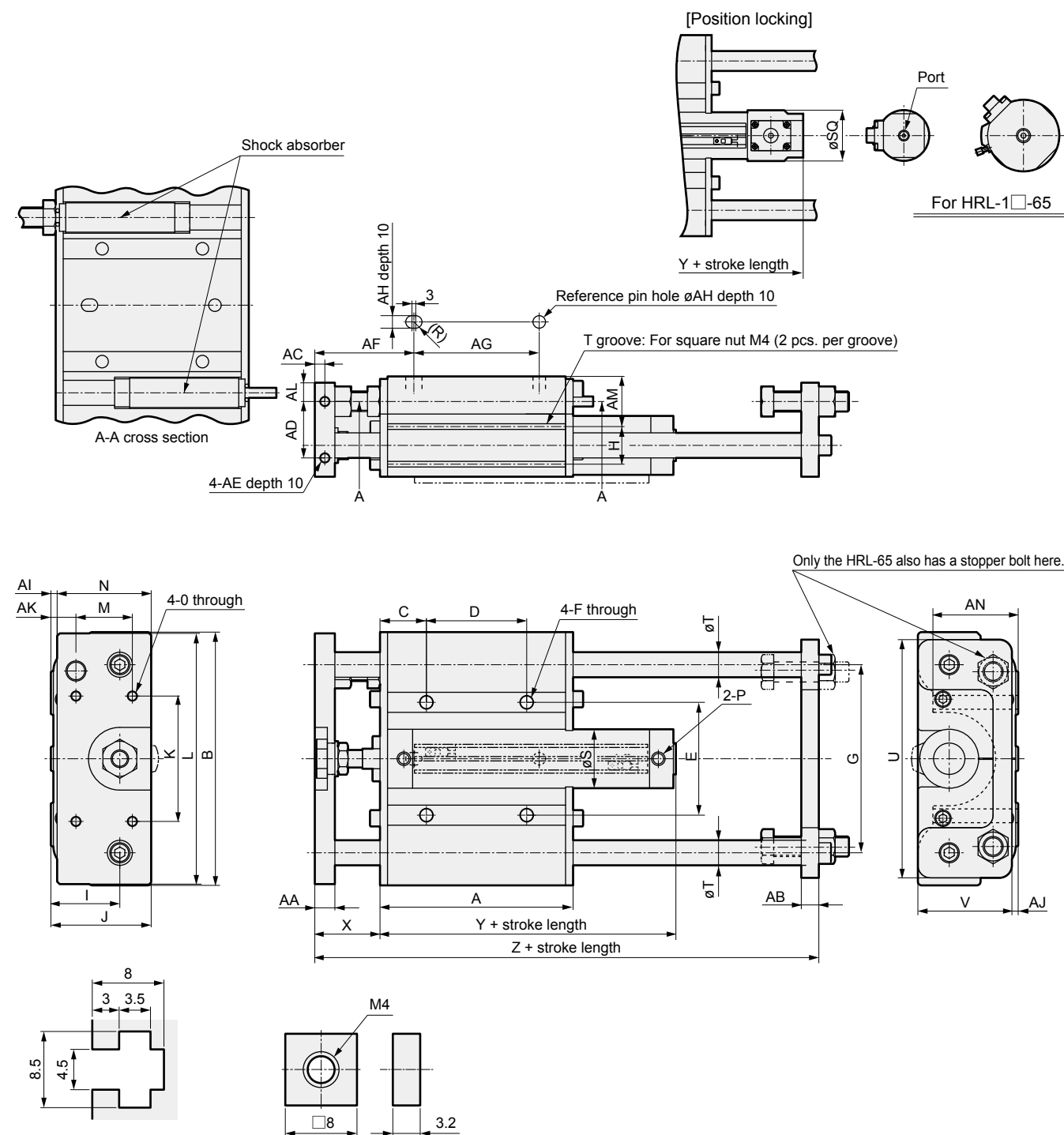
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LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

HRL-1 Series

Dimensions



● HRL-1-25 to 65 (basic body)



T groove section dimension

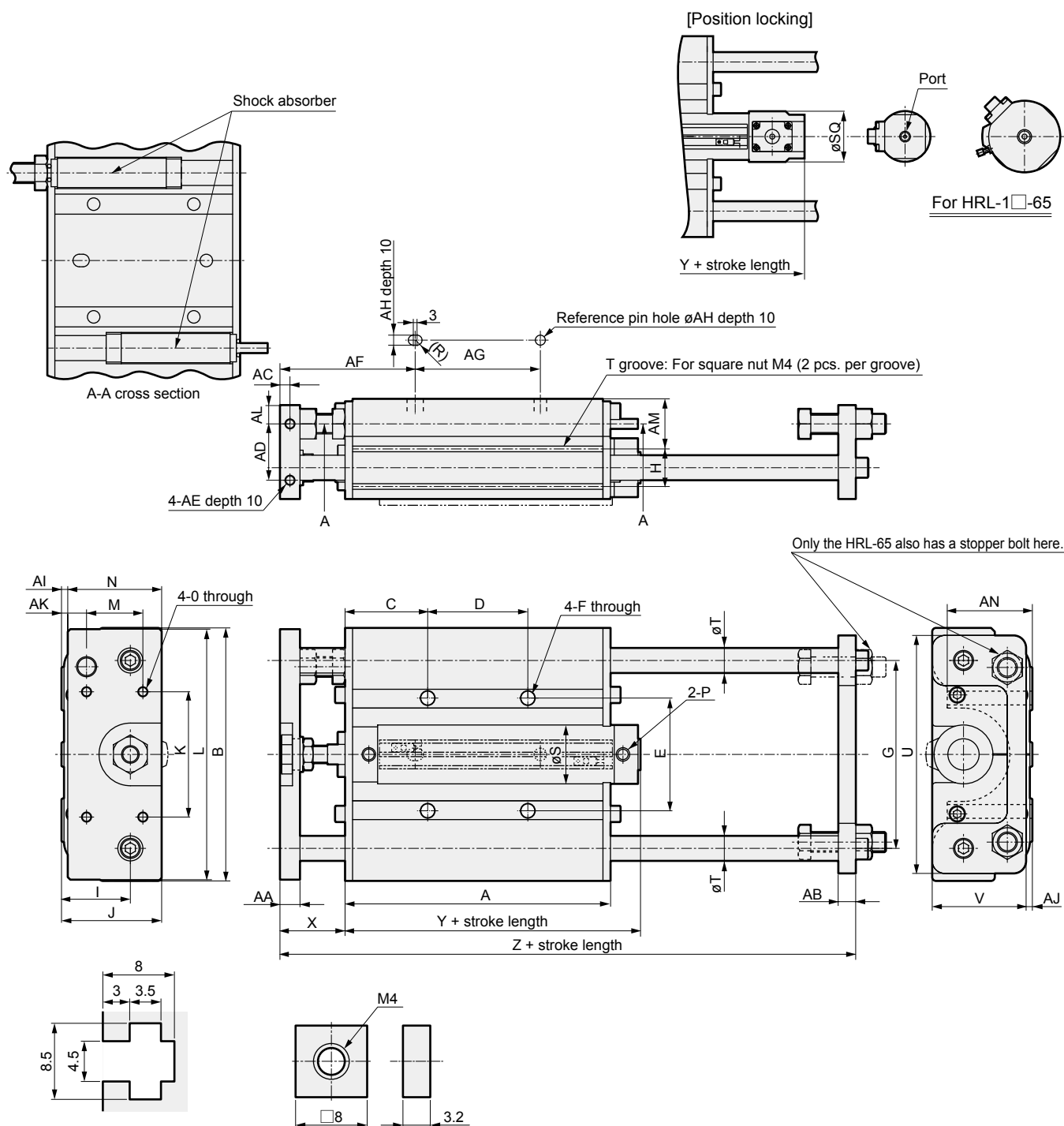
Integrated square nut dimension

Model No.	Stroke range (mm)		A	AA	AB	AC	AD	AE	AF	AG	AH		AI	AJ	AK	AL	AM	AN	B	C	D					
HRL-1-25	50,75,100		154	16	14	8	45	M8	79	100	10 ^{+0.03} ₀	5	5	20	15	40	68	202	37	80						
-50	125,150,200			19		9.5			82				2													
-65	250,300																									
Model No.	E	F	G	H	I	J	K	L	M	N	O	P	S	SQ	T	U	V	X	Y		Z					
HRL-1-25	90	11	150	30	55	80	100	200	45	75	M8	Rc1/8	47	51	20	190	75	52	86	121	252					
-50						92						Rc1/4	58	60	25			55	98	138	255					
-65													72	72.1	30											

Dimensions



- HRL-1L-25 to 65 (long body)



T groove section dimension

Integrated square nut dimension

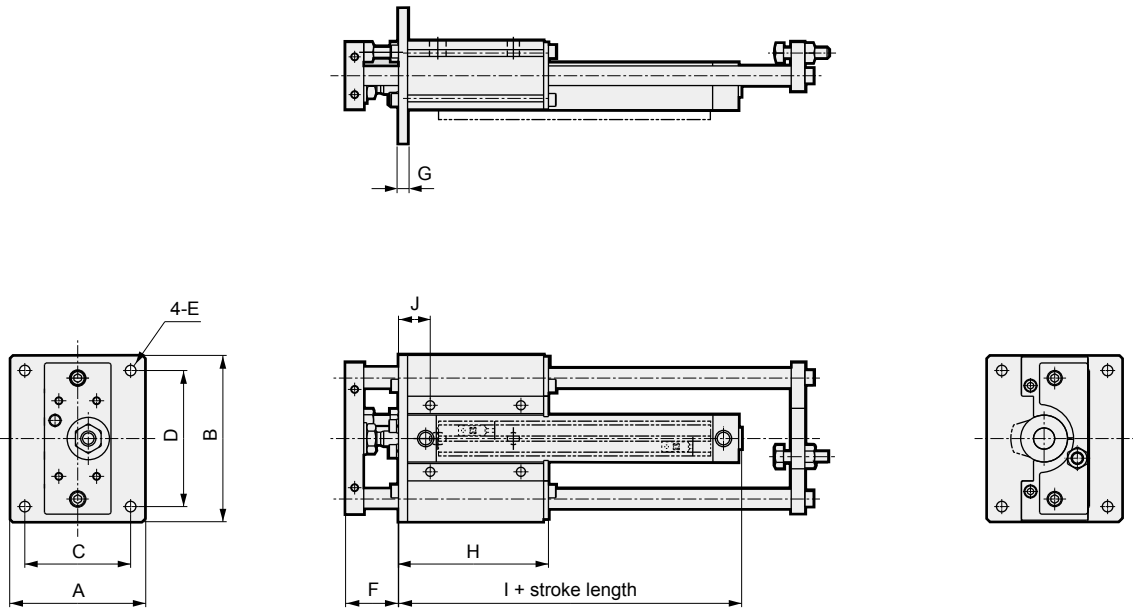
Model No.	Stroke range (mm)		A	AA	AB	AC	AD	AE	AF	AG	AH		AI	AJ	AK	AL	AM	AN	B	C	D
HRL-1L-25	350,400		212	16	14	8	45	M8	108	100	10 ^{+0.03} ₀	5	5	20	15	40	68	202	66	80	
-50	450,500			19		9.5			111				2								
-65	550,600																				
Model No.	E	F	G	H	I	J	K	L	M	N	O	P	S	SQ	T	U	V	X	Y		Z
HRL-1L-25	90	11	150	30	55	80	100	200	45	75	M8	Rc1/8	47	51	20	190	75	52	86	121	310
-50						Rc1/4						58	60	25	55			98	138	313	
-65												72	72.1	30							

HRL-1 Series

Dimensions



● With front flange

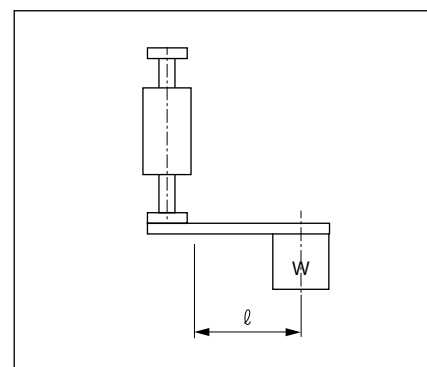
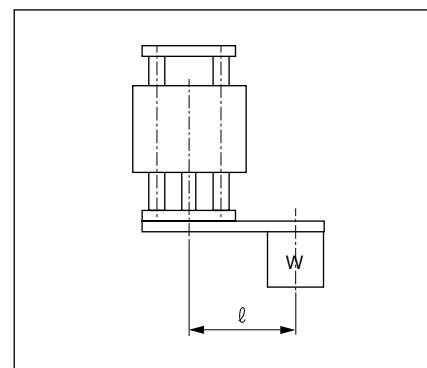
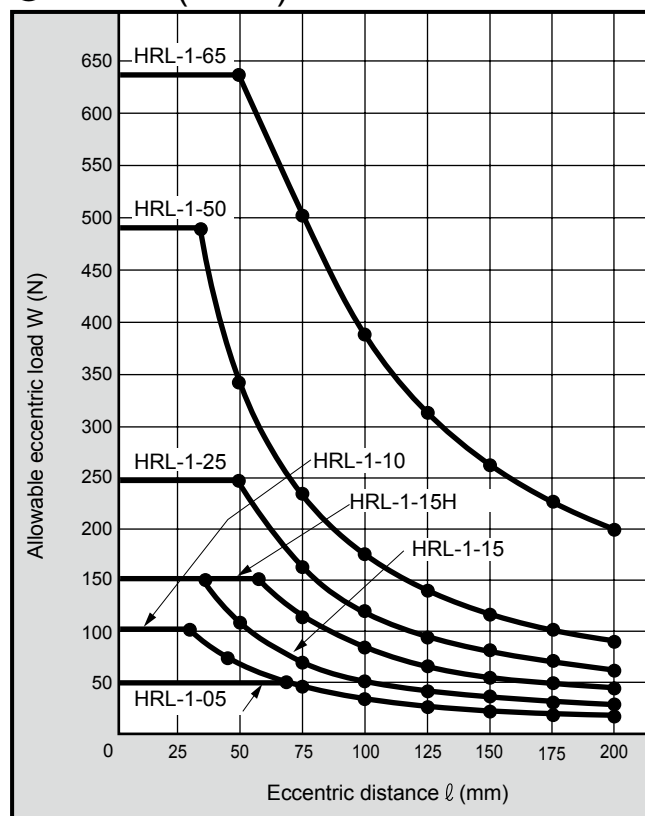


* Other dimensions are the same as those of the basic.

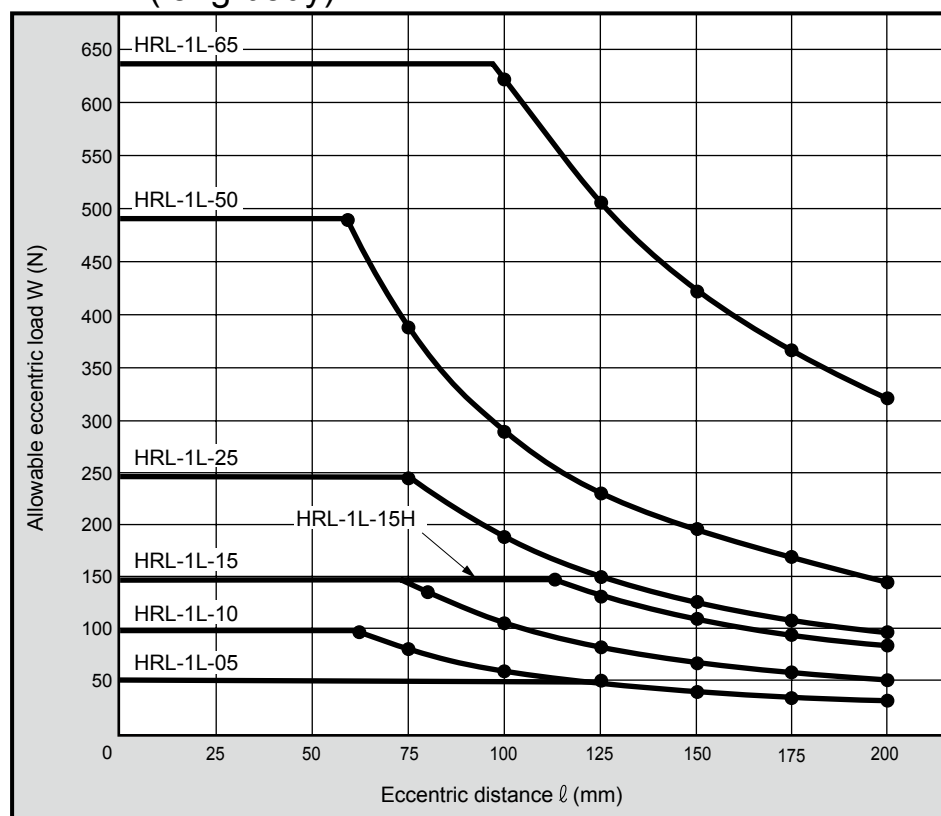
Model No.	A	B	C	D	E	F	G	H		I	J	
								Basic	Long body		Basic	Long body
HRL-1□F-05	90	110	70	90	7	35	6	99.2	144.2	77	21	43.5
-10		130		100					154.2	79		48.5
-15												
-15H												
-25	140	200	110	170	11	46	12	160	218	92	43	72
-50						49				104		
-65												

Allowable eccentric load

● HRL-1 (basic)



HRL-1L (long body)



LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
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