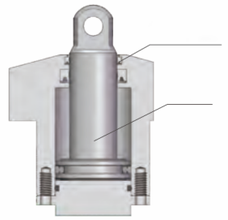
CLL

CLL HYDRAULIC COMPACT LINEAR CYLINDER

FEATURES

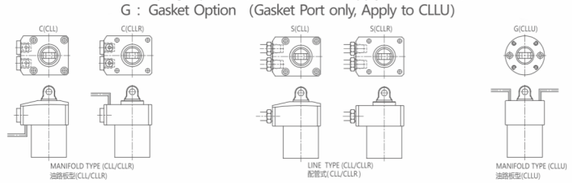
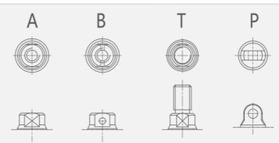
Maximum stroke is available with minimum space.CLL/CLLR/CLLU with 1 mm stroke increments and a variety of styles.

Sectional view

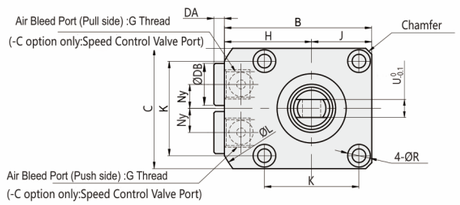


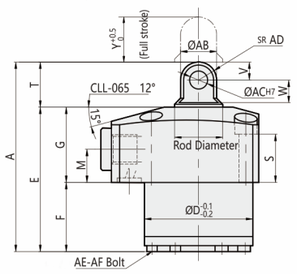
ORDERING INDICATION

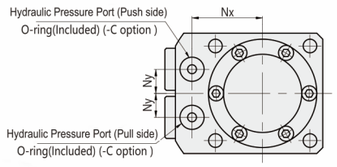
CLL-048CA-050

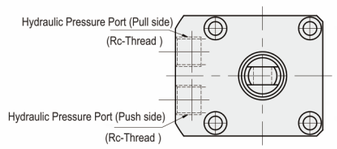
CLL	Series	CLL
	Mounting Methods	 CLL: Top Flange  CLLR: Bottom Flange  CLLU: Bottom Flange (Compact)
048	BodySize	Φ36:ΦD=36 040:ΦD=40 048:ΦD=48 055:ΦD=55 065:ΦD=65 075:ΦD=75 090:ΦD=90 105:ΦD=105 Note:ΦD indicates the outer diameter of the Cylinder
C	Piping Method	C: Gasket Option (With G Thread Plug, Apply to CLL/CLLR) S : Piping Option (Rc Thread Port, Apply to CLL/CLLR) G : Gasket Option (Gasket Port only, Apply to CLLU) 
A	Shape of Piston Tip	A : Female Threaded B : Female Threaded (With Anti-Rotation Pinhole) T : Male Threaded P : Pin-Hole Option 
050	Stroke	

C: Gasket Option(with G Thread Plug)
P: Pin-Hole Option※This drawing indicates CLL-CP





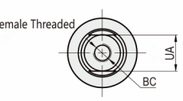


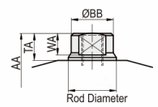


Piping Method
S:Rc-Thread Piping Option
※ The Drawing shows CLL-SP

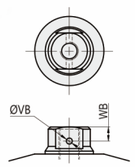
Tip Shape Refer P Pinhole dimension for not mentioned size below

A A:Female Threaded

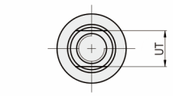


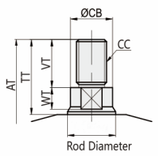


B B:Female Thread With Anti-Rotation Pinhole



T T:Male Threaded





SPECIFICATION

MODEL	Full Stroke Y (mm)	Cylinder Area(cm²) Push Side	Pull Side	Cylinder force (Calculation Formula) KN Push Side	Pull Side	Cylinder Capacity (Calculation Formula) cm³ Push Side	Pull Side	Cylinder inside diameter (mm)	Rod Diameter(mm)	Max. Operating Pressure(Mpa)	Min. Operating Pressure(Mpa)	Withstanding Pressure(Mpa)	Operating Temperature (℃)	Weight (kg)
CLL-036	1~50	4.5	2.5	P×0.45	P×0.25	Y×0.45	Y×0.25	Φ24	Φ16	7.0	0.5	10.5	0~70	0.6~0.8
CLL-040	1~50	5.3	2.8	P×0.53	P×0.28	Y×0.53	Y×0.28	Φ26	Φ18	7.0	0.5	10.5	0~70	0.7~0.9
CLL-048	1~75	8.0	4.9	P×0.80	P×0.49	Y×0.80	Y×0.49	Φ32	Φ20	7.0	0.5	10.5	0~70	1.0~1.6
CLL-055	1~75	9.6	5.8	P×0.96	P×0.58	Y×0.96	Y×0.58	Φ35	Φ22	7.0	0.5	10.5	0~70	1.3~2.1
CLL-065	1~75	15.9	11.0	P×1.59	P×1.10	Y×1.59	Y×1.10	Φ45	Φ25	7.0	0.5	10.5	0~70	1.9~3.1
CLL-075	1~75	23.8	16.7	P×2.38	P×1.67	Y×2.38	Y×1.67	Φ55	Φ30	7.0	0.5	10.5	0~70	2.8~4.1
CLL-090	1~75	36.3	26.4	P×3.63	P×2.64	Y×3.63	Y×2.64	Φ68	Φ35.5	7.0	0.5	10.5	0~70	4.3~6.1
CLL-105	1~75	50.3	34.4	P×5.03	P×3.44	Y×5.03	Y×3.44	Φ80	Φ45	7.0	0.5	10.5	0~70	5.9~8.0

Usable fluid: General Hydraulic Oil Equivalent to ISO-VG-32

A: Female Threaded

Unit:mm

Model	CLL-036	CLL-040	CLL-048	CLL-055	CLL-065	CLL-075	CLL-090	CLL-105
AA	57|Y+42	61|Y+46	64|Y+49	68|Y+53	75|Y+60	83|Y+68	93|Y+78	99|Y+84
TA	9	10	11	12	13	15	16	18
UA	12	13	14	17	19	24	30	36
WA	7.5	7.5	8.5	9	10	12	13	15
BB	14	15	17	19	22	27	33	42
BC (Nominal×Depth)	M6×12	M8×16	M8×16	M10×20	M12×24	M16×32	M20×40	M24×48

Refer P pinhole option dimension for not mentioned size below.

※ Calculation formula is different between full stroke: Y=1-14 mm and Y= more than 15 mm.Ex.) CLL-036□P-010 [Y=10, A=63, E=48, F=23]CLL-036□P-030 [Y=30, A=78, E=63, F=38]

P: Pin-Hole Option

Unit:mm

Model	CLL-036	CLL-040	CLL-048	CLL-055	CLL-065	CLL-075	CLL-090	CLL-105
Full Stroke Y	1~14|15~50	1~14|15~50	1~14|15~75	1~14|15~75	1~14|15~75	1~14|15~75	1~14|15~75	1~14|15~75
A	63|Y+48	70|Y+55	74|Y+59	80|Y+65	90|Y+75	101|Y+86	114|Y+99	127|Y+112
B	49	54	61	69	81	92	107	122
C	40	45	51	60	70	80	95	110
D	36	40	48	55	65	75	90	105
E	48|Y+33	51|Y+36	53|Y+38	56|Y+41	62|Y+47	68|Y+53	77|Y+62	81|Y+66
F	23|Y+8	26|Y+11	25|Y+10	28|Y+13	32|Y+17	31|Y+16	37|Y+22	36|Y+21
G	25	25	28	28	30	37	40	45
H	29	31.5	35.5	39	46	52	59.5	67
J	20	22.5	25.5	30	35	40	47.5	55
K	31.4	34	40	47	55	63	75	88
L	66	73	83	88	106	116	136	152
M	11	11	12	12	13	16	16	17
Nx	23.5	26	30	33.5	39.5	45	52.5	60
Ny	8	9	11	12	15	16	18.5	22.5
Q	7.5	9.5	9.5	11	11	14	17.5	20
R	4.5	5.5	5.5	6.8	6.8	9	11	14
S	16	14	15.5	13	15.5	17.5	16.5	17.5
T	15	19	21	24	28	33	37	46
U	6	8	10	11	13	16	19	22
V	6	8	9	10	12	14	16	21
W	7.5	9.5	10.5	12	14	17	19	23
Chamfer	C2	C3	C3	C3	C4	C5	C6	C6
AB	12	15	17	19	22	27	32	42
AC	$6^{+0.012}_{0}$	$8^{+0.015}_{0}$	$8^{+0.015}_{0}$	$10^{+0.015}_{0}$	$12^{+0.018}_{0}$	$14^{+0.018}_{0}$	$16^{+0.018}_{0}$	$20^{+0.021}_{0}$
AD	6	8	9	10	12	14	16	21
AE	-	-	6	4	6	6	8	10
AF	-	-	M4×0.7	M5×0.8	M5×0.8	M6	M6	M6
DA	3.5	3.5	3.5	3.5	4.5	4.5	4.5	4.5
DB	14	14	14	14	19	19	22	22
Air Bleed Port —C	G1/8	G1/8	G1/8	G1/8	G1/4	G1/4	G3/8	G3/8
Hydraulic Port —S	RC1/8	RC1/8	RC1/8	RC1/8	RC1/4	RC1/4	RC3/8	RC3/8
O-ring	1BP5	1BP5	1BP5	1BP5	1BP7	1BP7	1BP7	1BP7

B: Female Threaded with Anti-Rotation Pin Hole

Unit:mm

Model	CLL-036	CLL-040	CLL-048	CLL-055	CLL-065	CLL-075	CLL-090	CLL-105
VB	2	2.5	2.5	2.5	3	4	5	6
WB	5. 5	5	6	6.5	7	8. 5	9	10.5

Refer P pinhole option / A female thread option, dimensions not mentioned size in the chart below

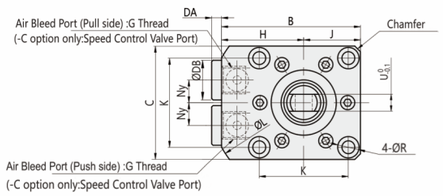
T: Male Threaded

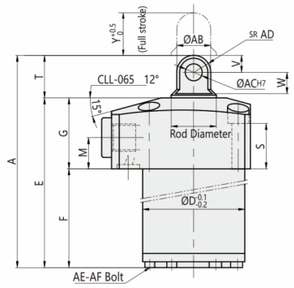
Unit:mm

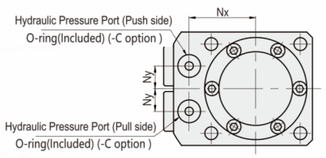
Model	CLL-036	CLL-040	CLL-048	CLL-055	CLL-065	CLL-075	CLL-090	CLL-105
AT	73|Y+58	81|Y+66	88|Y+73	96|Y+81	107|Y+92	118|Y+103	139|Y+124	153|Y+138
TT	25	30	35	40	45	50	62	72
UT	12	14	17	17	19	24	30	36
VT	16	20	24	28	32	35	46	54
WT	7.5	7.5	8.5	9	10	12	13	15
CB	14	17	19	21	24	29	34.5	42
CC (Nominal×Pitch)	M10×1.25	M12×1.25	M14×1.5	M16×1.5	M20×1.5	M24×1.5	M30×1.5	M36×1.5

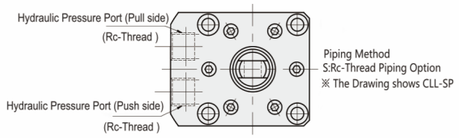
Refer P pinhole option dimension for not mentioned size below.

C: Gasket Option(with G Thread Plug)
P: Pin-Hole Option※This drawing indicates CLL-CP



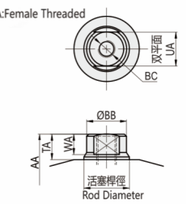




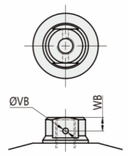


Tip Shape Refer P Pinhole dimension for not mentioned size below

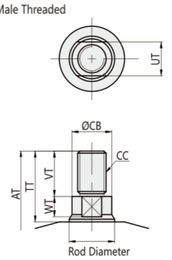
A A:Female Threaded



B B:Female Thread With Anti-Rotation Pinhole



T T:Male Threaded



SPECIFICATION

MODEL	Full Stroke Y (mm)	Cylinder Area(cm²) Push Side	Pull Side	Cylinder force (Calculation Formula) KN Push Side	Pull Side	Cylinder Capacity (Calculation Formula) cm³ Push Side	Pull Side	Cylinder inside diameter (mm)	Rod Diameter(mm)	Max. Operating Pressure(Mpa)	Min. Operating Pressure(Mpa)	Withstanding Pressure(Mpa)	Operating Temperature (℃)	Weight (kg)
CLL-036	51～100	4.5	2.5	P×0.45	P×0.25	Y×0.45	Y×0.25	Φ24	Φ16	7.0	0.5	10.5	0~70	0.9～1.2
CLL-040	51～100	5.3	2.8	P×0.53	P×0.28	Y×0.53	Y×0.28	Φ26	Φ18	7.0	0.5	10.5	0~70	1.0～1.4
CLL-048	76～200	8.0	4.9	P×0.80	P×0.49	Y×0.80	Y×0.49	Φ32	Φ20	7.0	0.5	10.5	0~70	1.7～3.0
CLL-055	76～200	9.6	5.8	P×0.96	P×0.58	Y×0.96	Y×0.58	Φ35	Φ22	7.0	0.5	10.5	0~70	2.3～4.1
CLL-065	76～200	15.9	11.0	P×1.59	P×1.10	Y×1.59	Y×1.10	Φ45	Φ25	7.0	0.5	10.5	0~70	3.2～5.4
CLL-075	76～200	23.8	16.7	P×2.38	P×1.67	Y×2.38	Y×1.67	Φ55	Φ30	7.0	0.5	10.5	0~70	4.4～7.1
CLL-090	76～200	36.3	26.4	P×3.63	P×2.64	Y×3.63	Y×2.64	Φ68	Φ35.5	7.0	0.5	10.5	0~70	6.5～10.1
CLL-105	76～200	50.3	34.4	P×5.03	P×3.44	Y×5.03	Y×3.44	Φ80	Φ45	7.0	0.5	10.5	0~70	9.0～13.0

A: Female Threaded

Unit:mm

Model	CLL-036	CLL-040	CLL-048	CLL-055	CLL-065	CLL-075	CLL-090	CLL-105
AA	Y+57	Y+61	Y+66	Y+69	Y+76	Y+89	Y+100	Y+110
TA	9	10	11	12	13	15	16	18
UA	12	13	14	17	19	24	30	36
WA	7.5	7.5	8.5	9	10	12	13	15
BB	14	15	17	19	22	27	33	42
BC (Nominal×Depth)	M6×12	M8×16	M8×16	M10×20	M12×24	M16×32	M20×40	M24×48

Refer P pinhole option dimension for not mentioned size below.

P: Pin-Hole Option

Unit:mm

Model	CLL-036	CLL-040	CLL-048	CLL-055	CLL-065	CLL-075	CLL-090	CLL-105
Full Stroke Y	51～100	51～100	76～200	76～200	76～200	76～200	76～200	76～200
A	Y+63	Y+70	Y+76	Y+81	Y+91	Y+107	Y+121	Y+138
B	49	54	61	69	81	92	107	122
C	40	45	51	60	70	80	95	110
D	36	40	48	55	65	75	90	105
E	Y+48	Y+51	Y+55	Y+57	Y+63	Y+74	Y+84	Y+92
F	Y+23	Y+26	Y+27	Y+29	Y+33	Y+37	Y+44	Y+47
G	25	25	28	28	30	37	40	45
H	29	31.5	35.5	39	46	52	59.5	67
J	20	22.5	25.5	30	35	40	47.5	55
K	31.4	34	40	47	55	63	75	88
L	66	73	83	88	106	116	136	152
M	11	11	12	12	13	16	16	17
Nx	23.5	26	30	33.5	39.5	45	52.5	60
Ny	8	9	11	12	15	16	18.5	22.5
Q	7.5	9.5	9.5	11	11	14	17.5	20
R	4.5	5.5	5.5	6.8	6.8	9	11	14
S	16	14	15.5	13	15.5	17.5	16.5	17.5
T	15	19	21	24	28	33	37	46
U	6	8	10	11	13	16	19	22
V	6	8	9	10	12	14	16	21
W	7.5	9.5	10.5	12	14	17	19	23
Chamfer	C2	C3	C3	C3	C4	C5	C6	C6
AB	12	15	17	19	22	27	32	42
AC	$6^{+0.012}_{0}$	$8^{+0.015}_{0}$	$8^{+0.015}_{0}$	$10^{+0.015}_{0}$	$12^{+0.018}_{0}$	$14^{+0.018}_{0}$	$16^{+0.018}_{0}$	$20^{+0.021}_{0}$
AD	6	8	9	10	12	14	16	21
AE	-	-	6	4	6	6	8	10
AF	-	-	M4×0.7	M5×0.8	M5×0.8	M6	M6	M6
DA	3.5	3.5	3.5	3.5	4.5	4.5	4.5	4.5
DB	14	14	14	14	19	19	22	22
Air Bleed Port —C	G1/8	G1/8	G1/8	G1/8	G1/4	G1/4	G3/8	G3/8
Hydraulic Port —S	RC1/8	RC1/8	RC1/8	RC1/8	RC1/4	RC1/4	RC3/8	RC3/8
O-ring	1BP5	1BP5	1BP5	1BP5	1BP7	1BP7	1BP7	1BP7

B: Female Threaded with Anti-Rotation Pin Hole

Unit:mm

Model	CLL-036	CLL-040	CLL-048	CLL-055	CLL-065	CLL-075	CLL-090	CLL-105
VB	2	2.5	2.5	2.5	3	4	5	6
WB	5. 5	5	6	6.5	7	8. 5	9	10.5

Refer P pinhole option / A female thread option, dimensions not mentioned size in the chart below

T: Male Threaded

Unit:mm

Model	CLL-036	CLL-040	CLL-048	CLL-055	CLL-065	CLL-075	CLL-090	CLL-105
AT	Y+73	Y+81	Y+90	Y+97	Y+108	Y+124	Y+146	Y+164
TT	25	30	35	40	45	50	62	72
UT	12	14	17	17	19	24	30	36
VT	16	20	24	28	32	35	46	54
WT	7.5	7.5	8.5	9	10	12	13	15
CB	14	17	19	21	24	29	34.5	42
CC (Nominal×Pitch)	M10×1.25	M12×1.25	M14×1.5	M16×1.5	M20×1.5	M24×1.5	M30×1.5	M36×1.5

Refer P pinhole option dimension for not mentioned size below.