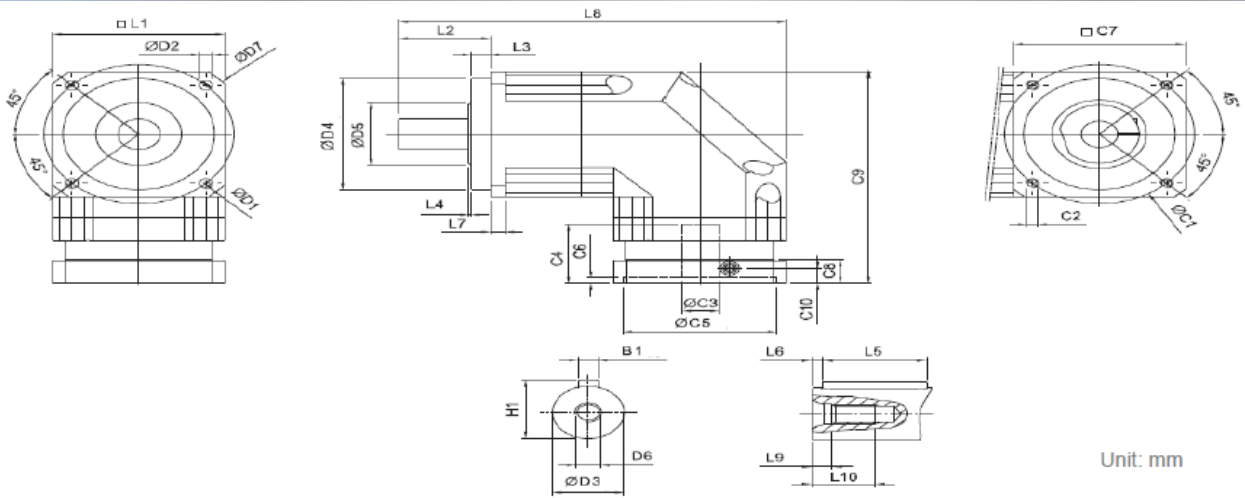


SPECIFICATIONS	STAGE	RATIO	PHR042	PHR060	PHR090	PHR115	PHR142	PHR180	PHR220
Nominal Output Torque (N.m)	1	3	9	36	90	195	342	588	1140
		4	12	48	120	260	520	1040	1680
		5	15	60	150	325	650	1200	2000
		7	19	50	140	300	550	1100	1800
		10	14	40	100	230	450	900	1500
		14	-	42	140	300	550	1100	1800
		20	-	40	100	230	450	900	1500
	2	25	15	60	150	325	650	1200	2000
		30	20	55	150	310	600	1100	1900
		35	19	50	140	300	550	1100	1800
		40	17	45	120	260	500	1000	1600
		45	14	40	100	230	450	900	1500
		50	14	60	100	230	650	1200	2000
		60	20	55	150	310	600	1100	1900
		70	19	50	140	300	550	1100	1800
		80	17	45	120	260	500	1000	1600
		90	14	40	100	230	450	900	1500
		100	14	40	100	330	450	900	1500
		120	-	-	150	300	600	1100	1900
		140	-	-	120	260	550	1100	1800
160	-	-	140	260	550	1000	1600		
180	-	-	120	230	450	900	1500		
200	-	-	100	230	450	900	1500		
Peak Output Torque (N.m)	1, 2	3-200	3 Times of Nominal Output Torque						
Rated Input Speed (RPM)	1, 2	3-200	5000	5000	4000	4000	3000	3000	2000
Max. Input Speed (RPM)	1, 2	3-200	10000	10000	8000	6000	6000	6000	4000
Backlash (arc min)	1	3-20	≤4, ≤6	≤4, ≤6	≤2, ≤4, ≤6	≤2, ≤4, ≤6	≤2, ≤4, ≤6	≤2, ≤4, ≤6	≤2, ≤4, ≤6
	2	25-200	≤7, ≤9	≤7, ≤9	≤4, ≤7, ≤9	≤4, ≤7, ≤9	≤4, ≤7, ≤9	≤4, ≤7, ≤9	≤4, ≤7, ≤9
Torsional Rigidity (Nm/arcmin)	1, 2	3-200	3	7	14	25	50	145	225
Allowable Radial Force (N)			780	1530	3250	6700	9400	14500	50000
Allowable Axial Force (N)			350	630	1300	3000	4000	6200	25000
Noise Level (dB)			≤61	≤63	≤65	≤68	≤70	≤72	≤74
Service Life (hrs.)			20,000						
Operating Temp. (°C)			-10°C~+90°C						
Protection Class			IP65						
Efficiency (%)	1	3-20	≥95%						
	2	25-200	≥93%						
Weights (kg.)	1	3-20	0.9	2.1	6.4	13	24.5	51	83
	2	25-200	1.2	2.5	7.8	14.2	27.5	54	95

# PHR DIMENSIONS



## Stage 1: Ratio: 3~20



Unit: mm

Size	PHR042	PHR060	PHR090	PHR115	PHR142	PHR180	PHR220
D1	50	70	100	130	165	215	250
D2	3.4	5.5	6.6	9	11	13	17
D3	13	16	22	32	40	55	75
D4	35	50	80	110	130	160	180
D5	22	25	45	50	70	85	85
D6	M4 x 0.7P	M5 x 0.8P	M8 x 1.25P	M12 x 1.75P	M16 x 2P	M20 x 2.5P	M20 x 2.5P
D7	56	80	116	152	185	240	292
L1	42	60	90	115	142	180	220
L2	22	37	48	65	97	105	138
L3	5.5	7	10	12	15	20	30
L4	1	1.5	1.5	2	3	3	3
L5	16	25	32	40	63	70	90
L6	2	2	3	5	5	6	7
L7	4	6	8	10	12	15	20
L8	111.5	144	203	266	333	394	484
L9	4.5	4.8	7.2	10	12	15	15
L10	10	15	19	28	36	42	42
C1	46	70	100	130	165	215	235
C2	M4 x 0.7P	M5 x 0.8P	M6 x 1P	M8 x 1.25P	M10 x 1.5P	M12 x 1.75P	M12 x 1.75P
C3	≤ 11	≤ 14/ ≤ 16	≤ 19/ ≤ 24	≤ 32	≤ 38	≤ 48	≤ 55
C4	25	30	40	50	60	85	116
C5	30	50	80	110	130	180	200
C6	3.5	8	4	5	6	6	6
C7	42	60	90	115	142	190	220
C8	29.5	19	17	19.5	22.5	29	63
C9	90.5	111.5	152.5	191.5	235.5	303.5	378.5
C10	8.75	13.5	10.75	13	15	20.75	53
B1	5	5	6	10	12	16	20
H1	15	18	24.5	35	43	59	79.5

C6~C8 sizes may differ per different motor dimensions