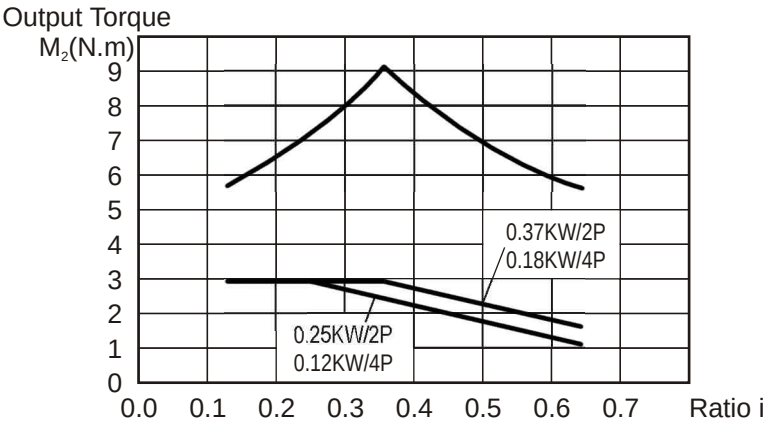
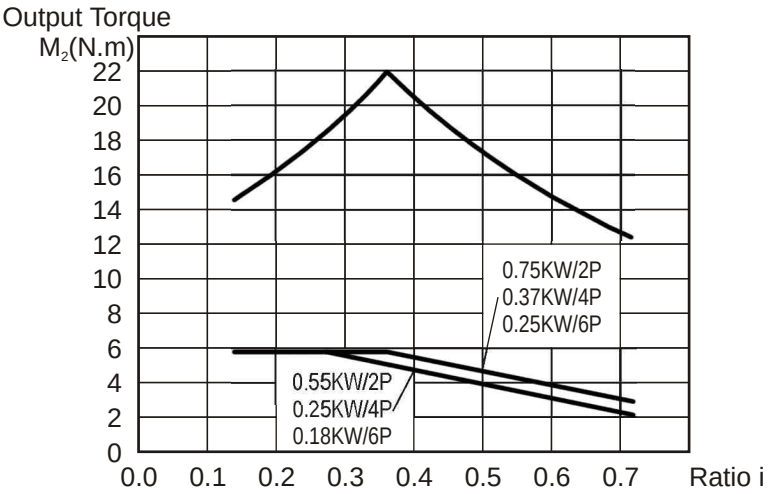
TORQUE CURVE 1: $M_2=f(i)$

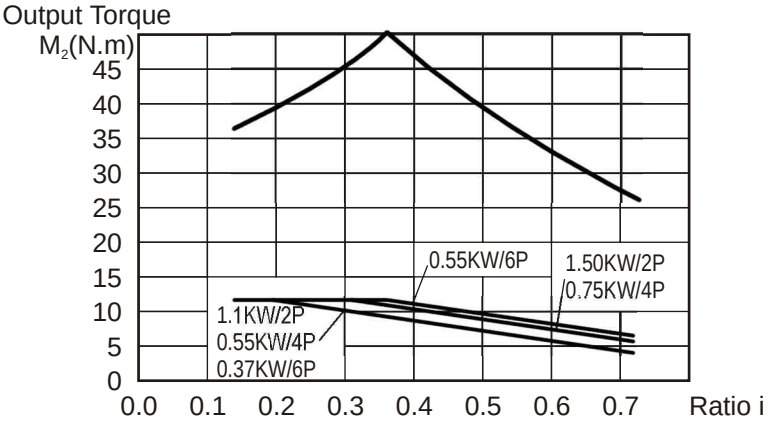
UDL-002



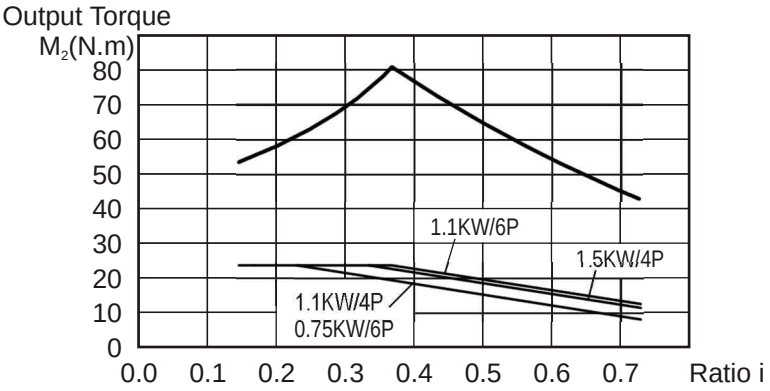
UDL-005



UDL-010

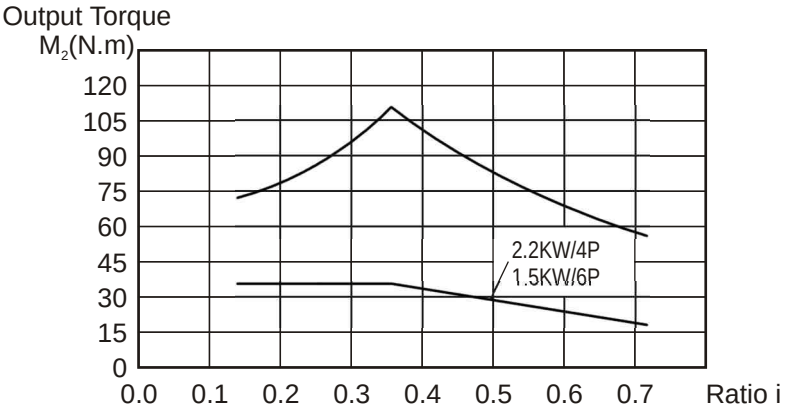


UDT-020

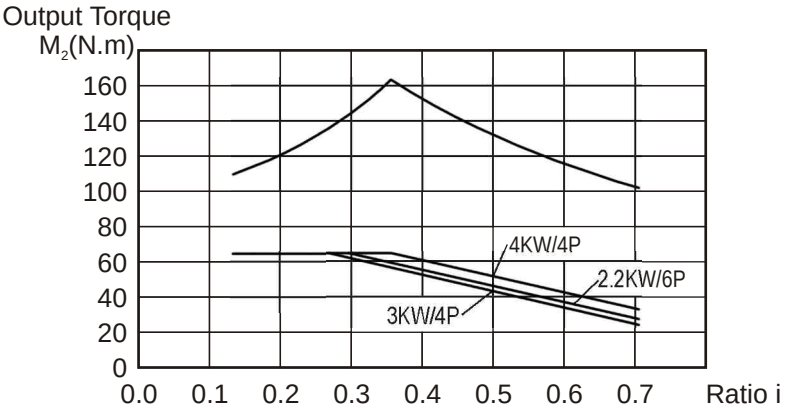


TORQUE CURVE 2: $M_2=f(i)$

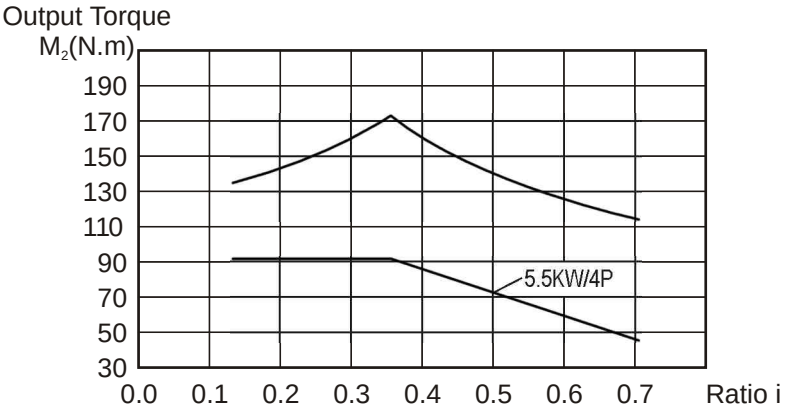
UDT-030S



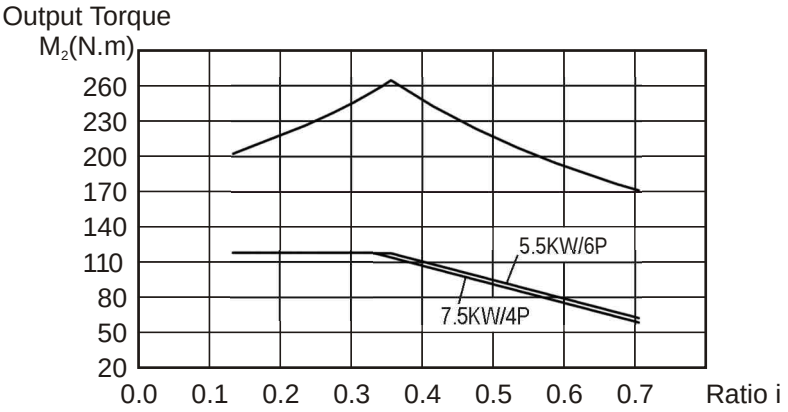
UDT-030L



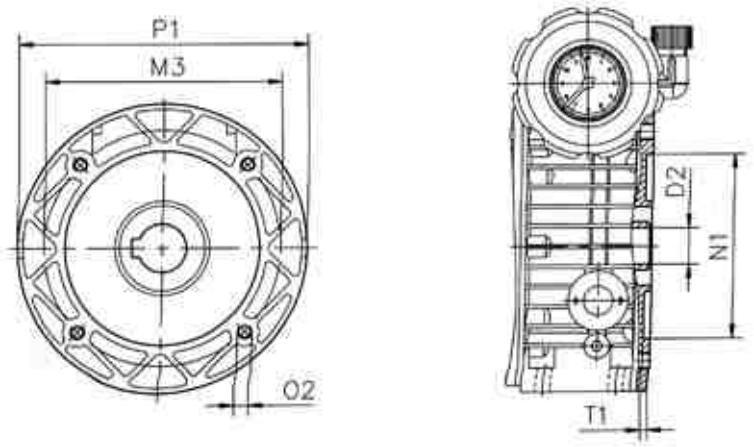
UDT-050S



UDT-050L

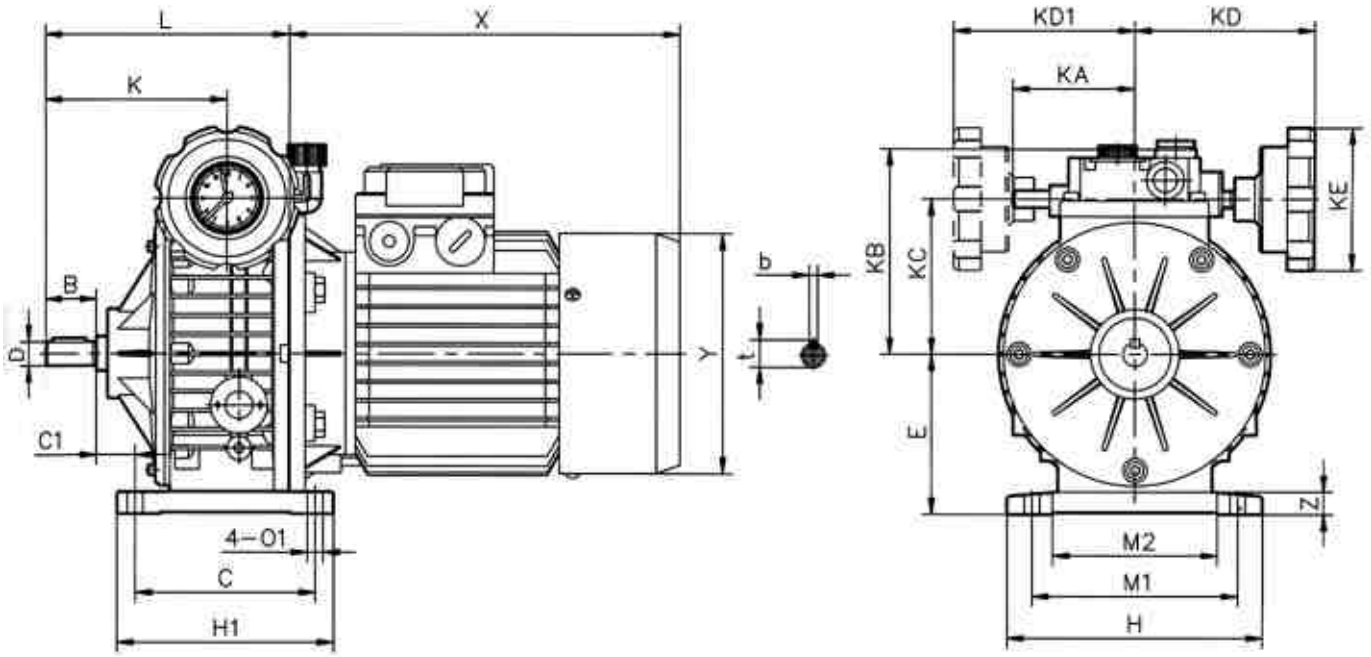


INSTALLATION DIMENSION~WITH FLANGE FOR MOUNTING IEC STANDARD MOTOR



Model	Flange Size	Installation Dimensions (mm)					
		P1	N1	M3	O2	D2	T1
UDL-002	63B5	140	95	115	M8	11	5
UDL-005	71B5	160	110	130	M8	14	5
UDL-010	80B5	200	130	165	M10	19	6
	90B5	200	130	165	M10	24	6
UDT-020	90B5	200	130	165	M10	24	6
UDT-030S	100B5	250	180	215	M12	28	6
UDT-030L	100B5 112B5	250	180	215	M12	28	6
UDT-050S	132B5	300	230	265	M12	38	6
UDT-050L							

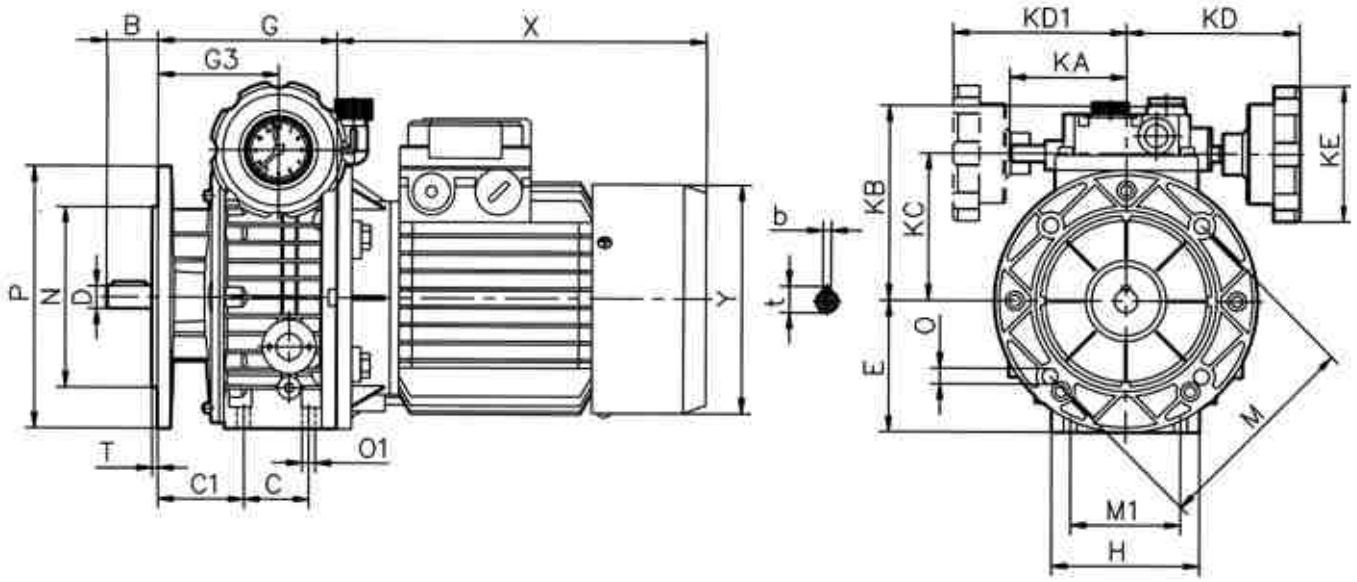
B3 INSTALLATION DIMENSION



Model	Installation Dimensions (mm)																			
	B	C	C1	D	E	H	H1	K	L	M1	M2	O1	KA	KB	KC	KD	KD1	KE	b	t	Z
UDL-002	23	105	17.5	11	80	145	120	87.5	135.5	110	71	9	71	111	78	110	110	85	4	12.5	10
UDL-005	30	104	20	14	93	149	125	104	140	120	96	9	71	123	90	110	110	85	5	16	10
UDL-010	40	125	26	19	113	190	150	125.5	179	160	135	11	79	140	107	120	120	110	6	21.5	15
UDT-020	50	115	53.5	24	123	241	150	165	238	190	143	13	---	144	122	150	---	110	8	27	18
UDT-030S	60	230	25	28	150	300	270	191	268	245	190	14	---	188	150	160	---	110	8	31	25
UDT-030L																					
UDT-050S	70	250	33	38	200	365	290	201	319	315	245	18	---	---	192	194	---	110	10	41	30
UDT-050L																					

Note: Please refer to our Montroli Electric Motor Brochure for the dimension X & Y.

B5 INSTALLATION DIMENSION



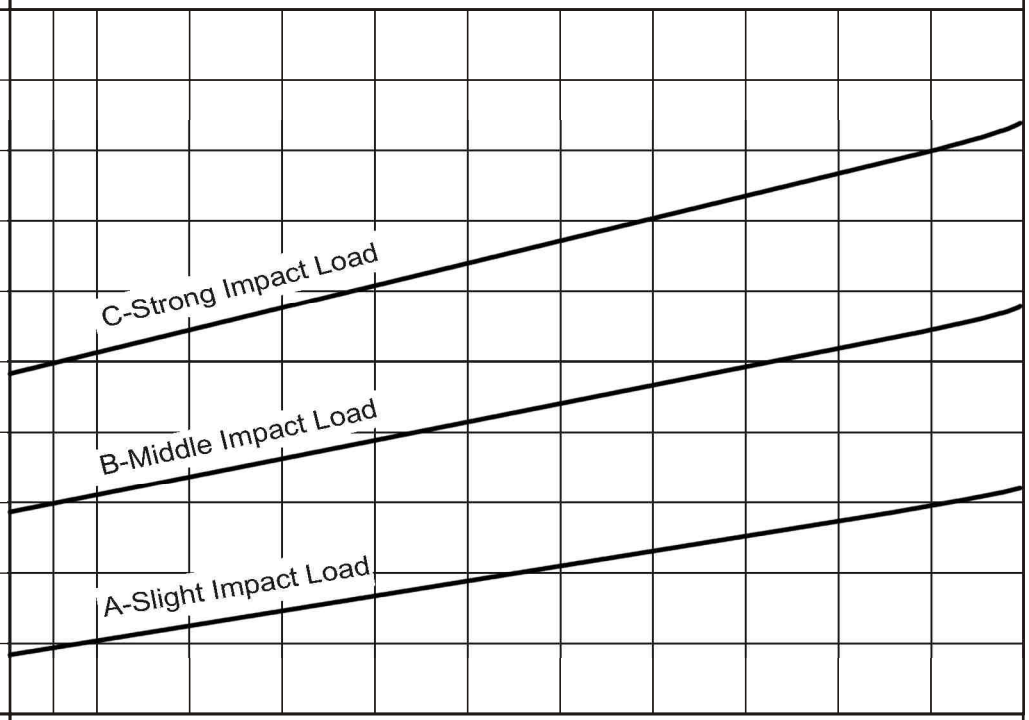
Model	Installation Dimensions (mm)																					
	B	C	C1	D	E	G	G3	H	M	M1	N	O	O1	P	T	KA	KB	KC	KD	KD1	KE	b	t
UDL-002	23	50	46	11	70	112.5	64.5	72	115	60	95	9	M6	140	3.5	71	111	78	110	110	85	4	12.5
UDL-005	30	40	53	14	80	110	74	90	130	77	110	9	M8	160	3.5	71	123	90	110	110	85	5	16
UDL-010	40	58	60	19	100	139	85.5	98	165	84	130	11	M8	200	3.5	79	140	107	120	120	110	6	21.5
UDT-020	50	---	---	24	126	188	115	241	165	---	130	11	---	200	3.5	---	144	122	150	---	110	8	27
UDT-030S	60	---	---	28	150	208	131	270	215	---	180	15	---	250	4	---	188	150	160	---	110	8	31
UDT-030L																							
UDT-050S	70	---	---	38	200	244	131	---	265	---	230	19	---	300	5	---	---	192	194	---	110	10	41
UDT-050L																							

Note: Please refer to our Montroli Electric Motor Brochure for the dimension X & Y.

B5 INSTALLATION DIMENSION

When select the model of the speed variator, you should consider the operate conditions. The factors of impact load type, daily working hour, start up frequency will affect the application of the speed variator. You should use the KA working service factor to select the most suitable model of the speed variator.

Daily Working Hour *				The Curve of Different Impact Load Type (suitable for ambient temperature: below +30°C)
24hrs	16hrs	8hrs	2hrs	
2.3	2.0	1.8	1.6	
2.2	1.9	1.7	1.5	
2.1	1.8	1.6	1.4	
2.0	1.7	1.5	1.3	
1.9	1.6	1.4	1.2	
1.8	1.5	1.3	1.1	
1.7	1.4	1.2	1.0	
1.6	1.3	1.1	0.9	
1.5	1.2	1.0	0.8	
KA Working Service Factor				5 10 20 30 40 50 60 70 80 90 100 Start Up Frequency (times/hour)



A-Slight Impact Load
B-Middle Impact Load (Max. Torque M_{max} g 1.5 times of Rating Torque)
C-Strong Impact Load (Max. Torque M_{max} > 1.5 times of Rating Torque)

The ambient temperature is also important. The above KA service factor should be adjusted according to the following ambient temperature:
+30°C~+40°C: KA x (1.1~1.2)
+40°C~+50°C: KA x (1.3~1.4)
+50°C~+60°C: KA x (1.5~1.6)

* Note: If the daily working hour that you required is not showed out in the chart, please select the KA factor between the figures.

When you select the speed variator, we must ensure that whether satisfied both of the below formulas:

1. Power at arbitrary working point = Working service factor x Required power at arbitrary working point

$$P_{ia} = KA \times P_{reqa}$$

$$P_{ia} \leqslant \text{Permitted Output Power P2 } (P2=P1 \times \eta_{ia})$$

2. Torque at arbitrary working point = Working service factor x Required torque at arbitrary working point

$$M_{ia} = KA \times M_{reqa}$$

$$M_{ia} \leqslant \text{Max. Output Torque } M_{2max}$$

SPEED VARIATOR SELECTION GUIDE

NO.1

* Decide KA working service factor according to the operate conditions.

NO.2

* Decide the output speed range n_{2min}~n_{2max}.
* Decide the efficiency point h at n_{2max} according to the efficiency curve at page 4.
* Decide the working ratio i_L~i_H.

NO.3

* Decide the required torque M_{reqH} and required power P_{reqH} at i_H:

$P_{reqH}=M_{reqH} \times n_{2max} / 9549$

NO.4

* Calculate the required output power P_{2H} at i_H:

$P_{2H}=KA \times P_{reqH}$

NO.5

* Initially select the input power P_1:

$P_1 \geqslant P_{2H}/\eta$

NO.6

* Decide the required torque M_{reqL} at i_L.

NO.7

* Calculate the permitted output torque M_{2L} at i_L:

$M_{2L}=KA \times M_{reqL}$

NO.8

* Decide the maximum output torque M_{2max} according to the page 2.

NO.9

* The M_{2max} must satisfied the below formula:
  M_{2L} g M_{2max}
* If the answer is Yes, just continue to the step No.10.
* If the answer is No, please repeat the step No.8 and increase the frame size.

No

Increase Frame Size

Yes

NO.10

* Verify the power P_{ia} and torque M_{ia} at arbitrary working point i_a:

$P_{ia}=KA \times P_{reqa}$
$M_{ia}=KA \times M_{reqa}$

NO.11

* Check whether satisfied both of the below formulas:
  $P_{ia} \leqslant P2$ $(P2=P1 \times \eta_{ia})$
  $M_{ia} \leqslant M_{2max}$
* If the answer is Yes, just continue to the step No.12.
* If the answer is No, please repeat the step No.10 and increase the frame size.

No

Increase Frame Size

Yes

NO.12

* Confirm the selected model.