

QUANTIS

III GEAR REDUCERS

DODGE® QUANTIS® ILH In-Line Helical Single Reduction

DODGE QUANTIS now offers Single Reduction as an option to complement our existing double and triple reduction In-Line Helical (ILH) gearing products. This gearbox can also be used in combination with ILH or Right Angle Helical Bevel (RHB) gearboxes to make a tandem QUANTIS gearbox achieving ratios greater than 300 to 1.

The QUANTIS Single Reduction ILH greatly extends DODGE's product offering in helical gearing solutions.

- ILH Sizes 38 – 88
- Output Shafts – Inch and Metric
- Output Flanges – B14, B5, and Nema
- Input HP Ratings up to 45hp
- Output Torque Ratings up to 3983 in.lbs
- 98% Efficiency
- Ratings for Single Reduction are in the Product Configurator



ILH Single Reduction - Size 38

All ratings at 1750 rpm input, output torque in lb. in.

Ratio	56C 71		80		140TC 90		180TC 100	
	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque
1.59	2.02	116	2.46	141	5.00	286	10.36	593
1.85	2.02	135	2.46	164	5.00	333	10.36	690
2.05	2.02	149	2.46	182	5.00	369	9.59	708
2.24	2.02	163	2.46	199	5.00	403	7.90	637
2.50	2.02	182	2.46	222	5.00	450	7.18	647
2.73	2.02	199	2.46	242	5.00	492	7.20	708
3.00	2.02	218	2.46	266	5.00	540	6.55	708
3.31	2.02	241	2.46	293	4.83	576	4.83	576
3.67	2.02	267	2.46	325	4.69	620	4.69	620
4.15	2.02	302	2.46	368	3.67	549	3.67	549
4.58	2.02	333	2.46	406	4.19	691	4.19	691
5.18	2.02	377	2.46	459	3.32	619	3.32	619
5.92	2.02	431	2.20	469	2.20	469	–	–
6.73	1.75	424	1.75	424	1.75	424	–	–
7.20	1.30	337	1.30	337	1.30	337	–	–
8.30	0.95	284	0.95	284	–	–	–	–
9.33	0.84	282	–	–	–	–	–	–

ILH Single Reduction - Size 48

All ratings at 1750 rpm input, output torque in lb. in.

Ratio	56C 71		80		140TC 90		180TC 100		112	
	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque
1.52	–	–	2.46	135	5.00	274	10.36	567	13.87	759
1.83	–	–	2.46	162	5.00	330	10.36	683	13.87	914
2.15	–	–	2.46	191	5.00	387	10.36	802	13.87	1074
2.41	2.02	175	2.46	214	5.00	434	10.36	899	13.87	1204
2.70	2.02	196	2.46	239	5.00	486	10.36	1007	13.87	1349
2.95	2.02	215	2.46	261	5.00	531	10.36	1101	13.87	1474
3.24	2.02	236	2.46	287	5.00	583	10.36	1209	11.38	1328
3.56	2.02	259	2.46	315	5.00	641	9.66	1239	9.66	1239
3.87	2.02	282	2.46	343	5.00	697	10.16	1416	10.16	1416
4.21	2.02	306	2.46	373	5.00	758	8.76	1328	8.76	1328
4.62	2.02	336	2.46	409	5.00	832	6.91	1150	6.91	1150
5.08	2.02	370	2.46	450	5.00	915	5.80	1061	5.80	1061
5.85	2.02	426	2.46	518	5.00	1053	5.04	1062	5.04	1062
6.33	2.02	461	2.46	561	4.46	1017	4.46	1017	4.46	1017
7.00	2.02	509	2.46	620	3.41	860	3.41	860	–	–
8.17	2.02	594	2.46	724	2.56	753	–	–	–	–
9.09	1.73	566	1.73	566	1.73	566	–	–	–	–
10.00	1.97	710	1.97	710	1.97	710	–	–	–	–
11.30	1.20	488	1.20	488	–	–	–	–	–	–



Aggregate/Cement

✓ Food

Mining

✓ Forest/Paper

Petro/Chem

✓ Unit/Baggage Handling

✓ HVAC/Industrial Air Handling

Environmental/Fluid Power

✓ Automotive

Metals



ILH Single Reduction - Size 68

All ratings at 1750 rpm input, output torque in lb. in.

Ratio	56C 71		80		140TC 90		180TC 100		112		210TC 132	
	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque
1.41	—	—	—	—	—	—	10.36	526	13.87	704	26.14	1327
1.70	—	—	—	—	—	—	10.36	634	13.87	849	25.30	1549
2.04	—	—	2.46	181	5.00	367	10.36	761	13.87	1019	25.30	1859
2.39	—	—	2.46	212	5.00	430	10.36	892	13.87	1194	23.65	2036
2.85	—	—	2.46	253	5.00	513	10.36	1063	13.87	1424	21.56	2213
3.09	2.02	225	2.46	274	5.00	556	10.36	1153	13.87	1544	19.88	2212
3.45	2.02	251	2.46	306	5.00	621	10.36	1287	13.87	1723	17.09	2123
3.74	2.02	272	2.46	331	5.00	674	10.36	1395	13.87	1868	15.11	2035
4.24	2.02	309	2.46	376	5.00	764	10.36	1582	13.33	2036	13.33	2036
4.56	2.02	332	2.46	404	5.00	821	10.36	1701	11.86	1948	11.86	1948
4.93	2.02	359	2.46	437	5.00	888	10.36	1839	11.22	1992	11.22	1992
5.36	2.02	390	2.46	475	5.00	965	10.09	1948	10.09	1948	10.09	1948
5.92	2.02	431	2.46	525	5.00	1066	7.89	1682	7.89	1682	7.89	1682
6.42	2.02	467	2.46	569	5.00	1156	6.51	1505	6.51	1505	6.51	1505
7.23	2.02	526	2.46	641	5.00	1302	5.10	1328	5.10	1328	—	—
7.92	2.02	576	2.46	702	5.00	1426	5.27	1503	5.27	1503	—	—
8.82	2.02	642	2.46	781	4.18	1328	4.18	1328	—	—	—	—
10.08	2.02	733	2.32	842	2.32	842	—	—	—	—	—	—
11.18	2.02	813	2.02	813	2.02	813	—	—	—	—	—	—
12.40	1.61	719	1.61	719	1.61	719	—	—	—	—	—	—

ILH Single Reduction - Size 88

All ratings at 1750 rpm input, output torque in lb. in.

Ratio	140TC 90		180TC 100		112		210TC 132		250TC 160	
	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque	Input HP	O/P Torque
1.71	—	—	—	—	13.87	854	32.74	2016	45.46	2800
2.09	—	—	10.36	780	13.87	1044	32.74	2464	45.46	3422
2.45	—	—	10.36	914	13.87	1224	32.74	2889	42.13	3717
2.88	5.00	519	10.36	1075	13.87	1439	32.74	3396	37.12	3850
3.30	5.00	594	10.36	1231	13.87	1648	32.74	3891	33.51	3983
3.90	5.00	702	10.36	1455	13.87	1948	24.26	3408	24.26	3408
4.23	5.00	762	10.36	1578	13.87	2113	23.24	3540	23.24	3540
4.70	5.00	846	10.36	1754	13.87	2348	20.13	3407	20.13	3407
5.11	5.00	920	10.36	1907	13.87	2553	17.79	3274	17.79	3274
5.65	5.00	1017	10.36	2108	13.87	2822	13.92	2833	13.92	2833
6.06	5.00	1091	10.36	2261	11.35	2477	11.35	2477	11.35	2477
6.53	5.00	1176	10.36	2436	11.29	2655	11.29	2655	—	—
7.07	5.00	1273	10.08	2567	10.08	2567	10.08	2567	—	—
7.69	5.00	1385	7.83	2169	7.83	2169	7.83	2169	—	—
8.42	5.00	1516	7.15	2168	7.15	2168	7.15	2168	—	—
9.46	5.00	1704	5.46	1860	5.46	1860	—	—	—	—
10.33	5.00	1860	5.47	2035	5.47	2035	—	—	—	—
11.46	3.75	1548	3.75	1548	—	—	—	—	—	—
13.08	2.72	1281	—	—	—	—	—	—	—	—
14.46	1.87	974	—	—	—	—	—	—	—	—

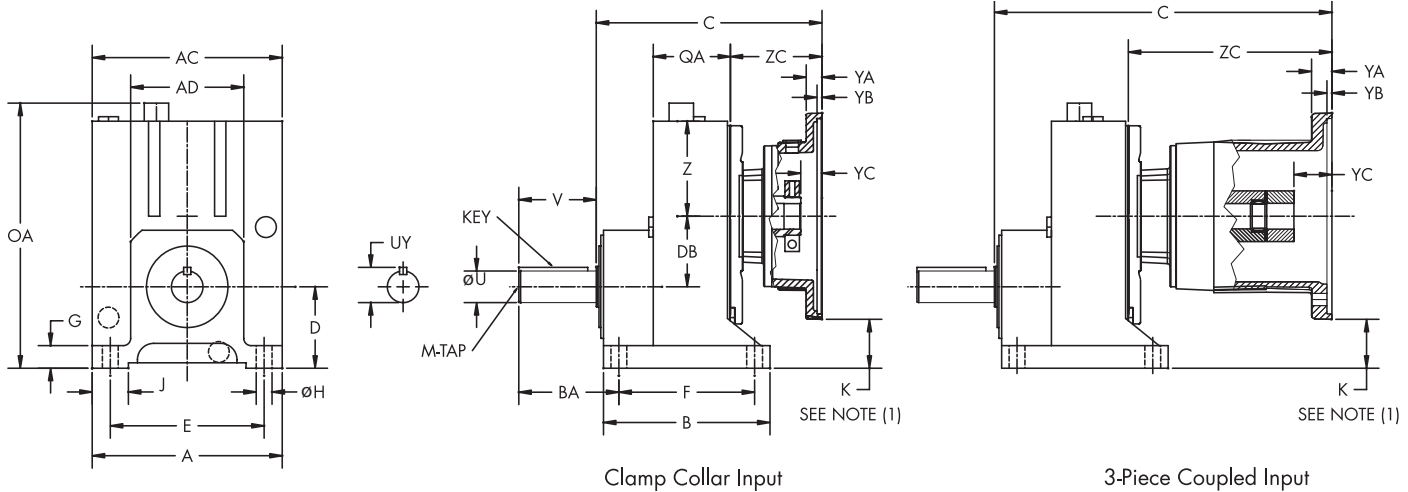
Ratios in red are available only in the flanged output housing



DODGE®
Quantis®
 MODULAR GEARING SOLUTIONS

IN-LINE HELICAL GEAR REDUCER (ILH) - SINGLE REDUCTION

NEMA C-FACE - FOOT MOUNTED - CLAMP COLLAR / 3 PIECE COUPLED



STANDARD OUTPUT SHAFT

SIZE	ØU	tol.	UY	V	KEY	M-TAP
38	0.875	+0.000 -0.001	0.95	2.24	3/16 x 3/16 x 1.50	5/16-18 UNC
48	1.125	+0.000 -0.001	1.23	2.74	1/4 x 1/4 x 2.35	3/8-16 UNC
68	1.375	+0.000 -0.001	1.51	3.37	5/16 x 5/16 x 3.00	3/8-16 UNC
88	1.625	+0.000 -0.001	1.79	3.15	3/8 x 3/8 x 2.75	5/8-11 UNC

GEARCASE

SIZE	A	AC	AD	B	BA	D	E	F	G	ØH	J	OA	DB	Z	QA
38	6.1	5.1	3.6	5.4	2.9	2.2	4.92	4.33	0.7	0.43	1.4	7.5	1.93	2.6	2.34
48	6.7	6.7	3.8	6.0	3.8	3.2	5.31	4.72	0.8	0.53	1.5	9.9	2.54	3.4	2.60
68	8.3	8.3	5.0	7.3	4.4	3.6	6.69	5.91	1.0	0.69	1.6	11.6	3.07	4.2	3.35
88	10.3	10.3	6.3	8.1	4.4	4.0	8.46	6.30	1.2	0.69	2.4	13.8	3.90	5.2	3.86

NEMA MOTOR ADAPTER - CLAMP COLLAR

	38			48			68			88			YA	YB	YC
	C	ZC	K (1)	C	ZC	K	C	ZC	K	C	ZC	K			
56C	7.8	3.5	0.9	7.6	3.3	2.4	8.9	3.1	3.4	-	-	-	0.47	0.20	0.67
140TC	8.5	4.2	0.9	8.3	4.0	2.4	9.6	3.7	3.4	9.5	3.1	4.6	0.47	0.20	0.67
180TC	8.8	4.5	-0.4	9.9	5.5	1.2	11.0	5.2	2.2	10.9	4.5	3.4	0.69	0.22	0.93
210TC	-	-	-	-	-	-	12.9	7.1	2.1	12.8	6.4	3.4	0.69	0.22	0.89
250TC	-	-	-	-	-	-	-	-	-	12.7	6.3	2.8	0.94	0.20	1.13

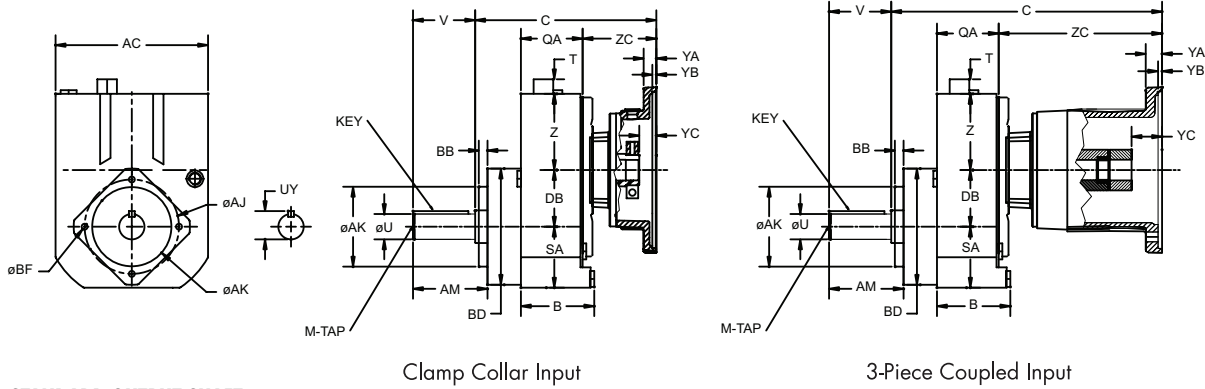
NEMA MOTOR ADAPTER - 3 PIECE COUPLED

	38			48			68			88			YA	YB	YC
	C	ZC	K	C	ZC	K	C	ZC	K	C	ZC	K			
56C	11.0	6.6	0.9	10.8	6.4	2.4	12.0	6.2	3.4	-	-	-	0.55	0.20	1.08
140TC	12.4	8.1	0.9	12.2	7.8	2.4	13.4	7.6	3.4	13.4	7.0	4.6	0.55	0.20	1.10
180TC	-	-	-	13.4	9.1	1.2	14.6	8.8	2.2	14.5	8.1	3.4	0.73	0.22	1.65
210TC	-	-	-	-	-	-	16.8	11.0	2.2	16.6	10.2	3.4	0.87	0.22	2.01
250TC	-	-	-	-	-	-	-	-	-	18.5	12.2	2.8	0.94	0.20	2.17

(1) A negative number indicates the flange extends below the reducer feet. Depending on the motor, portions of the motor may extend further below the feet and require spacer blocks to avoid clearance problems.

IN-LINE HELICAL GEAR REDUCER (ILH) - SINGLE REDUCTION

NEMA C-FACE - FLANGE MOUNTED - CLAMP COLLAR / 3 PIECE COUPLED - B14 Flange



STANDARD OUTPUT SHAFT

SIZE	ϕU	tol.	UY	V	KEY	M-TAP
38	0.875	+0.000 -0.001	0.95	2.24	3/16 x 3/16 x 1.50	5/16-18 UNC
48	1.125	+0.000 -0.001	1.23	2.74	1/4 x 1/4 x 2.35	3/8-16 UNC
68	1.375	+0.000 -0.001	1.51	3.37	5/16 x 5/16 x 3.00	3/8-16 UNC
88	1.625	+0.000 -0.001	1.79	3.15	3/8 x 3/8 x 2.75	5/8-11 UNC

GEARCASE / FLANGE

SIZE	O/P FLANGE	ϕAJ	ϕAK	tol.	BB	AM	BD	ϕBF	AC	B	QA	SA	DB	Z	T
38	B14 120MM	3.937	3.1496	+0.0005 -0.0003	0.35	2.75	4.8	M8 x 1.25	5.1	2.3	2.4	2.4	1.93	2.6	0.9
48	B14 120MM	3.937	3.1496	+0.0005 -0.0003	0.35	3.25	4.8	M8 x 1.25	6.7	3.2	2.6	3.0	2.54	3.4	0.9
68	B14 160MM	5.118	4.3307	+0.0005 -0.0004	0.45	4.04	6.3	M10 x 1.5	8.3	4.0	3.4	3.4	3.07	4.2	0.9
88	B14 190MM	6.496	5.1181	+0.0006 -0.0004	0.41	3.86	7.5	M12 x 1.75	10.3	4.4	3.9	4.2	3.90	5.2	0.9

NEMA MOTOR ADAPTER - CLAMP COLLAR

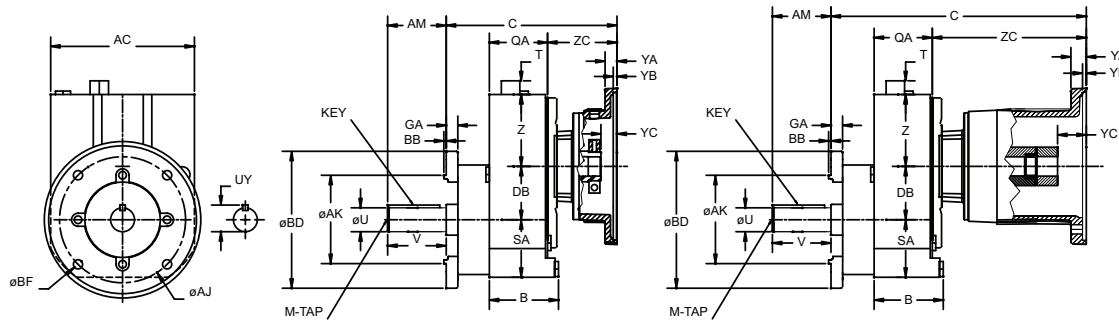
	38		48		68		88		YA	YB	YC
	C	ZC	C	ZC	C	ZC	C	ZC			
56C	7.3	3.5	7.1	3.3	8.2	3.1	-	-	0.47	0.20	0.67
140TC	8.0	4.2	7.8	4.0	8.9	3.7	8.8	3.1	0.47	0.20	0.67
180TC	8.3	4.5	9.4	5.5	10.4	5.2	10.2	4.5	0.69	0.22	0.93
210TC	-	-	-	-	12.3	7.1	12.0	6.4	0.69	0.22	0.89
250TC	-	-	-	-	-	-	12.0	6.3	0.94	0.20	1.13

NEMA MOTOR ADAPTER - 3 PIECE COUPLED

	38		48		68		88		YA	YB	YC
	C	ZC	C	ZC	C	ZC	C	ZC			
56C	10.5	6.6	10.2	6.4	11.3	6.2	-	-	0.55	0.20	1.08
140TC	11.9	8.1	11.7	7.8	12.8	7.6	12.7	7.0	0.55	0.20	1.10
180TC	-	-	12.9	9.1	14.0	8.8	13.7	8.1	0.73	0.22	1.65
210TC	-	-	-	-	16.1	11.0	15.9	10.2	0.87	0.22	2.01
250TC	-	-	-	-	-	-	17.8	12.2	0.94	0.20	2.17

IN-LINE HELICAL GEAR REDUCER (ILH) - SINGLE REDUCTION

NEMA C-FACE - FLANGE MOUNTED - CLAMP COLLAR / 3 PIECE COUPLED - B5 and NEMA Flange



Clamp Collar Input

3-Piece Coupled Input

STANDARD OUTPUT SHAFT

SIZE	øU	tol.	UY	V	KEY	M-TAP
38	0.875	+0.000 -0.001	0.95	2.24	3/16 x 3/16 x 1.50	5/16-18 UNC
48	1.125	+0.000 -0.001	1.23	2.74	1/4 x 1/4 x 2.35	3/8-16 UNC
68	1.375	+0.000 -0.001	1.51	3.37	5/16 x 5/16 x 3.00	3/8-16 UNC
88	1.625	+0.000 -0.001	1.79	3.15	3/8 x 3/8 x 2.75	5/8-11 UNC

GEARCASE / FLANGE

SIZE	O/P FLANGE	øAJ	øAK	tol.	BB	GA	AM	øBD	øBF	AC	B	QA	SA	DB	Z	T
38	NEMA 140TC	5.875	4.5000	+0.0000 -0.0030	0.15	0.7	2.12	6.5	0.41	5.1	2.3	2.4	2.4	1.93	2.6	0.9
	B5 160MM	5.118	4.3307	+0.0005 -0.0004	0.14	0.4	2.24	6.3	0.35	5.1	2.3	2.4	2.4	1.93	2.6	0.9
	B5 200MM	6.496	5.1181	+0.0006 -0.0004	0.14	0.5	2.24	7.9	0.43	5.1	2.3	2.4	2.4	1.93	2.6	0.9
48	NEMA 180TC	7.250	8.5000	+0.0000 -0.0030	0.26	0.4	2.88	9.0	0.53	6.7	3.2	2.6	3.0	2.54	3.4	0.9
	B5 160MM	5.118	4.3307	+0.0005 -0.0004	0.14	0.4	2.74	6.3	0.35	6.7	3.2	2.6	3.0	2.54	3.4	0.9
	B5 200MM	6.496	5.1181	+0.0006 -0.0004	0.14	0.5	2.74	7.9	0.43	6.7	3.2	2.6	3.0	2.54	3.4	0.9
68	NEMA 210TC	7.250	8.5000	+0.0000 -0.0030	0.26	0.7	3.38	9.0	0.53	8.3	4.0	3.4	3.4	3.07	4.2	0.9
	B5 200MM	6.496	5.1181	+0.0006 -0.0004	0.14	0.5	3.37	7.9	0.43	8.3	4.0	3.4	3.4	3.07	4.2	0.9
	B5 250MM	8.465	7.0866	+0.0006 -0.0004	0.16	0.6	3.37	9.9	0.53	8.3	4.0	3.4	3.4	3.07	4.2	0.9
88	B5 250MM	8.465	7.0866	+0.0006 -0.0004	0.16	0.6	3.15	9.9	0.53	10.3	4.4	3.9	4.2	3.90	5.2	0.9
	B5 300MM	10.433	9.0551	+0.0006 -0.0005	0.16	0.7	3.15	11.9	0.53	10.3	4.4	3.9	4.2	3.90	5.2	0.9

NEMA MOTOR ADAPTER - CLAMP COLLAR

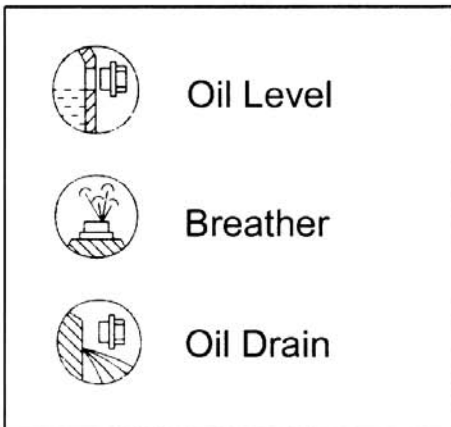
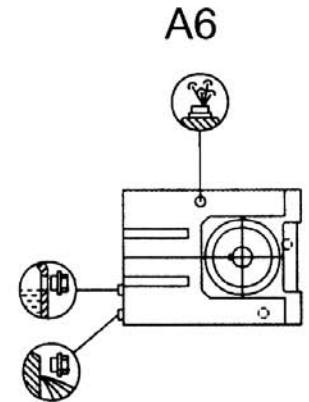
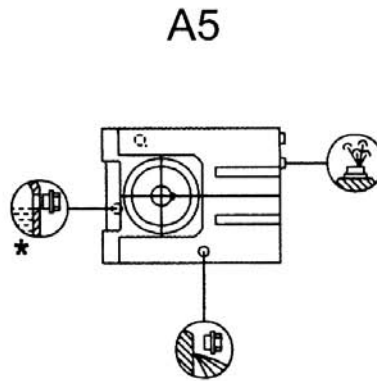
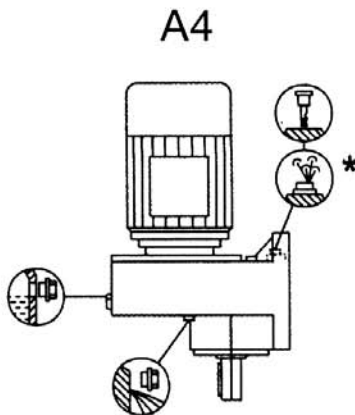
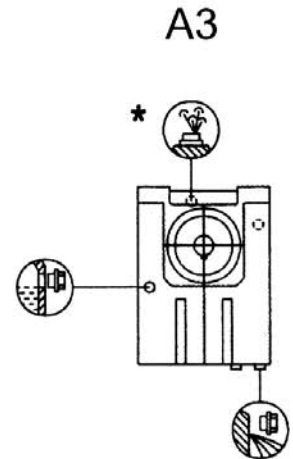
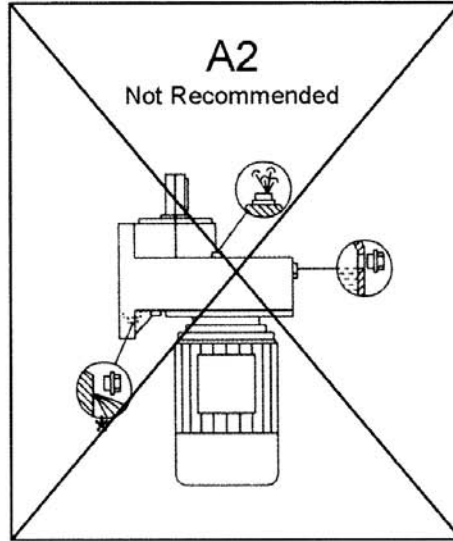
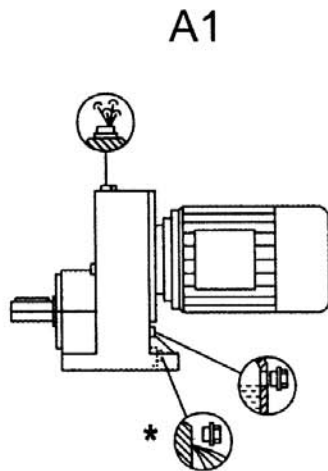
	38		48		68		88		YA	YB	YC
	C	ZC	C	ZC	C	ZC	C	ZC			
56C	7.3	3.5	7.1	3.3	8.2	3.1	-	-	0.47	0.20	0.67
140TC	8.0	4.2	7.8	4.0	8.9	3.7	8.8	3.1	0.47	0.20	0.67
180TC	8.3	4.5	9.4	5.5	10.4	5.2	10.2	4.5	0.69	0.22	0.93
210TC	-	-	-	-	12.3	7.1	12.0	6.4	0.69	0.22	0.89
250TC	-	-	-	-	-	-	12.0	6.3	0.94	0.20	1.13

NEMA MOTOR ADAPTER - 3 PIECE COUPLED

	38		48		68		88		YA	YB	YC
	C	ZC	C	ZC	C	ZC	C	ZC			
56C	10.5	6.6	10.2	6.4	11.3	6.2	-	-	0.55	0.20	1.08
140TC	11.9	8.1	11.7	7.8	12.8	7.6	12.7	7.0	0.55	0.20	1.10
180TC	-	-	12.9	9.1	14.0	8.8	13.7	8.1	0.73	0.22	1.65
210TC	-	-	-	-	16.1	11.0	15.9	10.2	0.87	0.22	2.01
250TC	-	-	-	-	-	-	17.8	12.2	0.94	0.20	2.17

Note: C dimension gives length from input flange to output shaft shoulder. Overall length of unit is equal to C + V.

ILH SINGLE REDUCTION OIL FILL LEVELS & FILL VOLUMES FLANGED AND FOOT MOUNTED – SIZES 38-88



Estimated** Oil fill Volume Requirements (pints)

Position	38	48	68	88
A1	0.3	0.5	1.1	1.6
A2	1.2	2.2	3.9	8
A3	0.8	1.5	3.1	5.3
A4	1	1.5	3.7	4.9
A5	0.5	1.2	2.1	3.3
A6	0.5	1	2.2	3.4

*On opposite side.

**These volumes are approximated. Fill bottom of hole marked 'Oil Level'.

Note: Factory fill levels are based on product ordering information. If the actual mounting position differs from the ordered fill, adjust volumes accordingly.



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