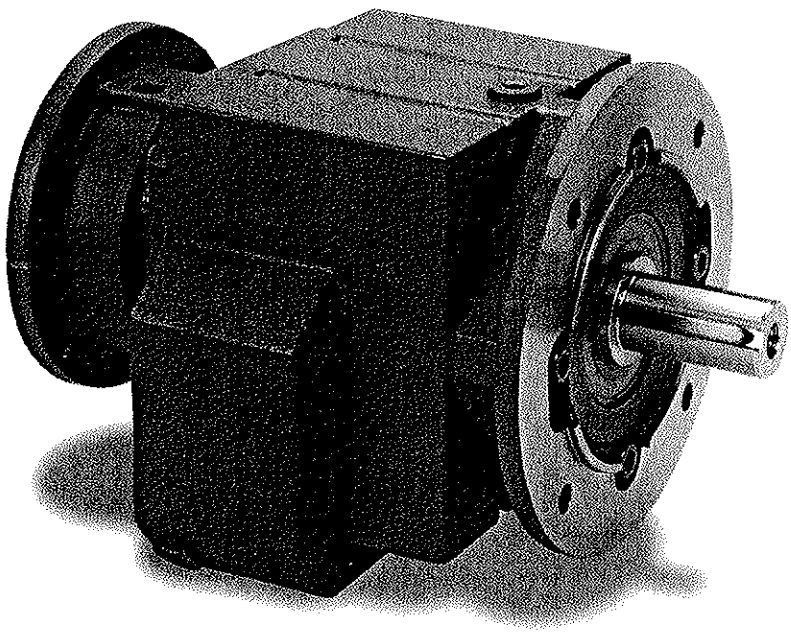
Installation and Instruction Manual
For

DODGE® QUANTIS®
IN-LINE HELICAL REDUCER

Gearmotors
C-Face Reducers
Separates

For Sizes 38 thru 168



WARNING: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures as may be desirable or as may be specified in safety codes should be provided, and are neither provided by Rockwell Automation nor are the responsibility of Rockwell Automation. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risk to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

TABLE OF CONTENTS

DANGER

High voltage and rotating parts can cause serious or fatal injury and property damage. The use of electrical machinery, like all other utilization of concentrated power and rotating equipment, can be hazardous. Installation, operation and maintenance should be performed only by qualified electrical and mechanical maintenance personnel familiar with NEMA safety standards, the National Electrical Code and sound local practices. The manual is to be studied thoroughly by personnel responsible for the installation and maintenance of this equipment before installation is begun. Personnel must be familiar with the potential hazards involved. If this warning is not observed, personal injury and/or property damage may result. Keep this document for future reference.

GENERAL

Please read these instructions carefully. They contain vital information on proper installation, operation, maintenance and service for the DODGE QUANTIS ILH gear reducer.

Each DODGE gear reducer is thoroughly inspected and tested at the factory prior to shipment. Care is taken in packing of each gear reducer. However, each gear reducer should be thoroughly inspected before it is accepted from the transportation company. If any of the goods called for in the bill of lading are damaged or missing, do not accept the shipment until the freight agent makes appropriate notation on your freight bill. If any loss or damage is discovered later, notify the agent at once and request an inspection. Though DODGE will be happy to assist you with claims for loss or damage in shipment, the transportation company is responsible for reimbursing you for such claims. Claims for loss or damage in shipment must not be deducted from the DODGE invoice, nor should payment of the DODGE invoice be withheld awaiting claims adjustment. The carrier, not DODGE, guarantees safe delivery. If considerable damage or shortage has occurred and the situation is urgent, contact the nearest DODGE Sales Office.

WARRANTY

NOTE: SERVICE AND REPAIR UNDER WARRANTY SHOULD BE PERFORMED ONLY BY A DODGE AUTHORIZED SERVICE SHOP. CALL WARRANTY ADMINISTRATION AT 864-284-5514 FOR THE NEAREST LOCATION.

The DODGE QUANTIS ILH is warranted under the DODGE "Standard Terms and Conditions of Sale". Warranty claims must be submitted to DODGE within one year from the date of installation or within three years from the date of manufacture, whichever comes first. The warranty does not extend to failures induced by misuse, improper storage or handling, abuse, or misapplication.

LUBRICATION OF THE DODGE QUANTIS ILH GEAR REDUCER

The DODGE QUANTIS ILH Gear Reducer is factory filled with ISO 220 EP type mineral oil to the correct oil level for the specified mounting position. Changes in the mounting position will require relocation of the oil level and vent plugs. Oil may have to be added or drained to get to the correct oil level in the new mounting position. See the Mounting Position Diagrams on Pages 2 and 3 for the correct plug locations for various mounting positions of the QUANTIS ILH unit. The oil level should be checked before startup and frequently thereafter, preferably with the unit at operating temperature.

The DODGE QUANTIS ILH gearbox is factory filled with lubricant. The factory fill lubricant is suitable for use at all output speeds and in ambient temperatures from +10°F to +104°F (-12°C to +40°C). No initial oil change after break in is needed. The initial factory oil fill is good for up to 10000 hours or 3 years of service, whichever comes first, in normal industrial environments.

Normal operating conditions are defined as steady loads not exceeding normal ratings and running conditions as defined in the DODGE QUANTIS ILH catalog. Oil quantity and levels should be checked at frequent intervals, depending on usage. Oil changes are required after 10000 operating hours, or three years whichever comes first. The period can be extended to 20000 operating hours, or six years, if a synthetic lubricant is used. The lubricant should be changed more frequently if the unit is operating in a hostile environment. For extremely hot, wet, or dirty conditions please consult Application Engineering at 864-297-4800. In those mountings that require grease lubrication for specific bearings, relubricate the affected bearings every year, or every 4000 operating hours whichever comes first.

DODGE QUANTIS ILH Reducers are shipped with filling, oil level and drain plugs in place. A separate breather is included with the unit. Before putting the unit into service the filling plug must be replaced with the breather. HB38 and HF38 (2- and 3-stage gear units) have one oil plug, ventilation is not necessary.

NOTE: For ambient temperatures below -30°F (-34°C) special oil seals are required. Consult Application Engineering.

Reference oil volumes for each QUANTIS ILH unit are listed on page 5 in gallons and liters.

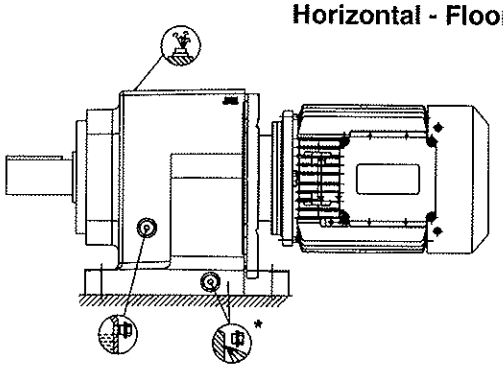
MOUNTING POSITIONS

IN LINE HELICAL C-FACE REDUCERS & INTEGRAL GEARMOTORS ILH 38-88

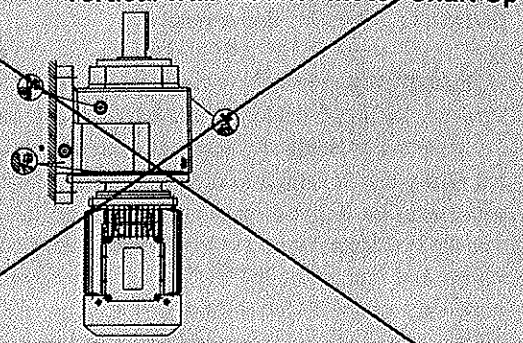
These mounting arrangements are for all output configurations and output shaft types. When ordering, please specify mouting position for correct oil quantity. In cases of mounting position other than shown here with regard to the oil quantity, please reference the Incline Mounting page in the QUANTIS catalog and contact Application Engineering.

OIL DRAIN VENTILATION OIL LEVEL

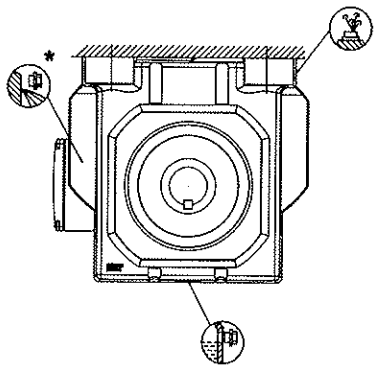
A1 Horizontal - Floor Mount



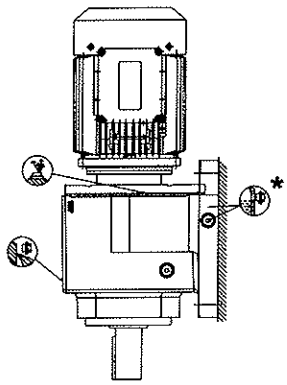
A2 Vertical Wall Mount - Motor Shaft Up



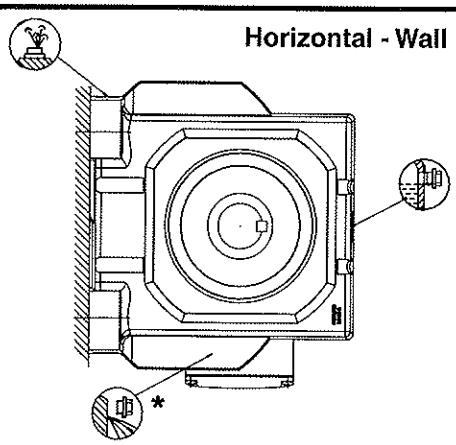
A3 Horizontal - Ceiling Mount



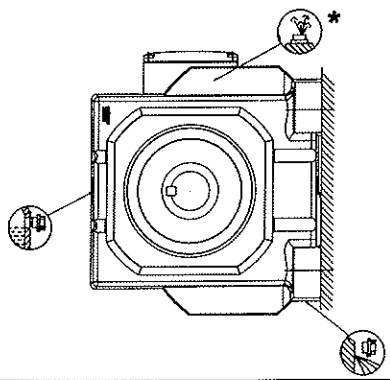
A4 Vertical Wall Mount - Motor Shaft Down



A5 Horizontal - Wall Mount



A6 Horizontal - Wall Mount



* On opposite side

HB38 and HF38 units are sealed and furnished with only one plug for the purpose of filling and draining.

Shaded mounting position not recommended. Use of product in positions not recommended negates the time-in-use warranty.

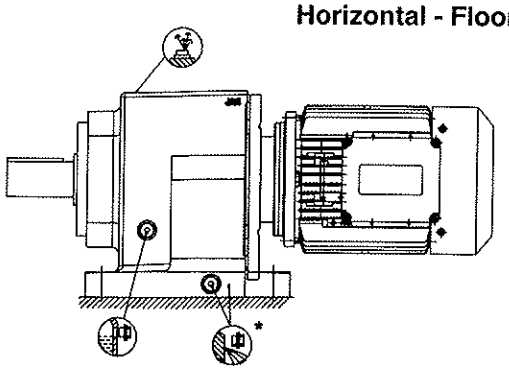
MOUNTING POSITIONS

IN LINE HELICAL C-FACE REDUCERS & INTEGRAL GEARMOTORS ILH 108-168

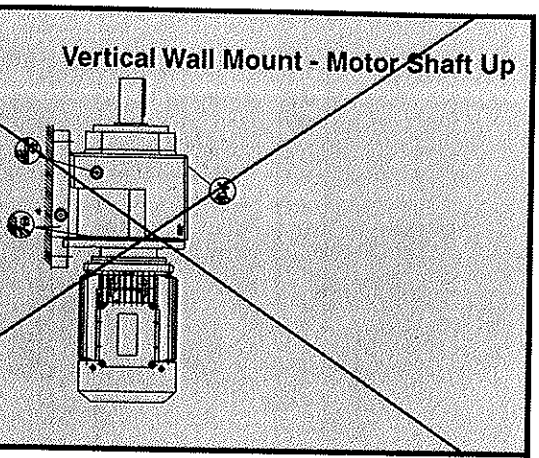
These mounting arrangements are for all output configurations and output shaft types. When ordering, please specify mouting position for correct oil quantity. In cases of mounting position other than shown here with regard to the oil quantity, please reference the Incline Mounting page in the QUANTIS catalog and contact Application Engineering.

OIL DRAIN VENTILATION OIL LEVEL

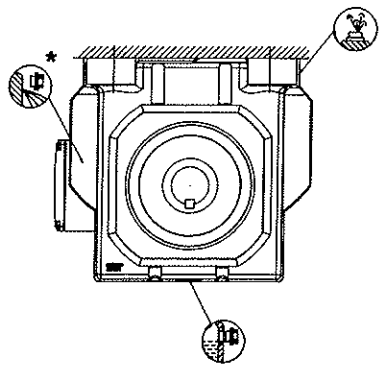
A1 Horizontal - Floor Mount



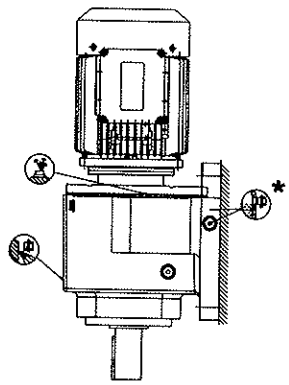
A2 Vertical Wall Mount - Motor Shaft Up



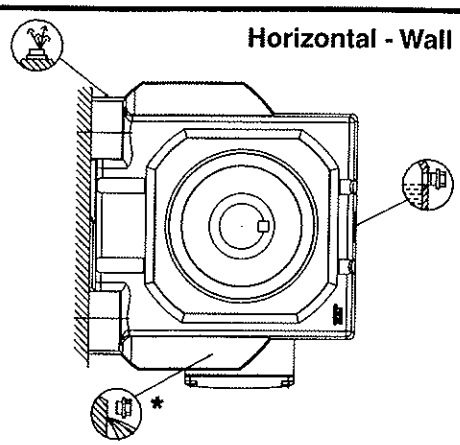
A3 Horizontal - Ceiling Mount



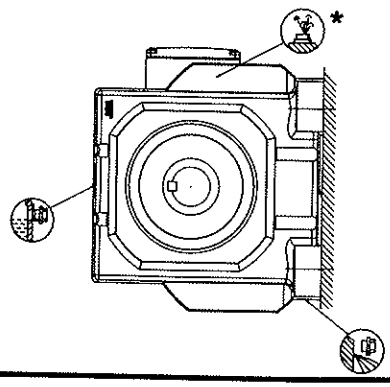
A4 Vertical Wall Mount - Motor Shaft Down



A5 Horizontal - Wall Mount



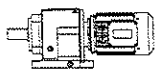
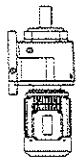
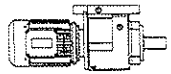
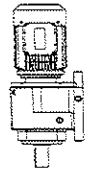
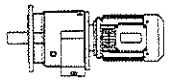
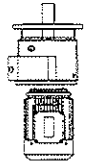
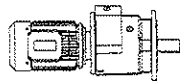
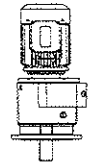
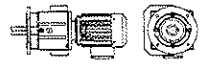
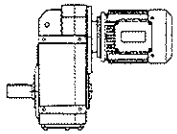
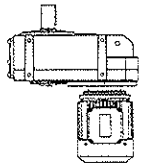
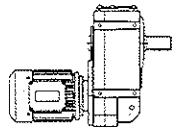
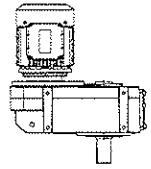
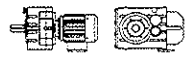
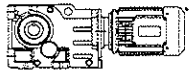
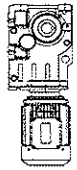
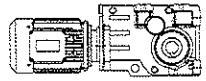
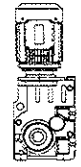
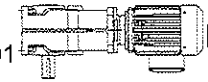
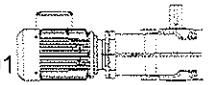
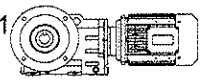
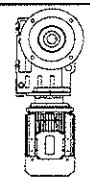
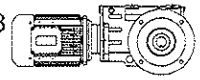
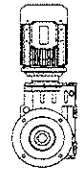
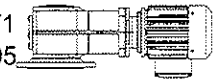
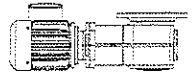
A6 Horizontal - Wall Mount



* On opposite side

Shaded mounting position not recommended. Use of product in positions not recommended negates the time-in-use warranty.

Table of Old vs. New Mounting Positions

	A1	A2	A3	A4	A5	A6
ILH HB	B3 	V6 	B8 	V5 	B6 	B7 
ILH HF	B5 	V3 	B8-01 	V1 		
MSM MW	B6 B5 	V6 V3 	B6-02 B5-02 	V5 V1 	B3 B8 B5-01 	B3-01 B8-01 B5-03 
RHB BB	B3 B6-01 	B6 B8-01 	B8 	B3-01 B6-02 	V5 V5-01 	V6 V6-01 
RHB BF	B5-01 H-01 	B5 H-04 	B5-03 H-02 	B5-02 H-03 	V1 H-05 	V1-01 H-06 

Type	Red. Stage	Mounting Position											
		A1		A2		A3		A4		A5		A6	
		Pints	Liters	Pints	Liters	Pints	Liters	Pints	Liters	Pints	Liters	Pints	Liters
H_38	2	1.1	0.5	2.5	1.2	1.3	0.6	1.5	0.7	1.3	0.6	1.3	0.6
	3	1.1	0.5	2.3	1.1	1.3	0.6	1.9	0.9	1.3	0.6	1.3	0.6
H_48	2	2.3	1.1	5.1	2.4	3.2	1.5	3.8	1.8	3.4	1.6	2.7	1.3
	3	2.3	1.1	5.1	2.4	3.2	1.5	4.9	2.3	3.2	1.5	3.0	1.4
H_68	2	3.8	1.8	8.7	4.1	5.3	2.5	6.8	3.2	5.7	2.7	4.9	2.3
	3	3.6	1.7	8.5	4.0	5.5	2.6	8.5	4.0	5.5	2.6	5.1	2.4
H_88	2	8.7	4.1	18.6	8.8	12.0	5.7	15.9	7.5	12.9	6.1	11.2	5.3
	3	8.5	4.0	18.8	8.9	12.5	5.9	19.7	9.3	12.5	5.9	11.4	5.4
H_108	2	14.2	6.7	29.6	14.0	18.2	8.6	27.9	13.2	22.2	10.5	19.7	9.3
	3	13.7	6.5	30.0	14.2	19.0	9.0	33.0	15.6	21.8	10.3	20.1	9.5
H_128	2	19.0	9.0	44.2	20.9	27.9	13.2	42.1	19.9	33.8	16.0	29.8	14.1
	3	18.4	8.7	45.4	21.5	29.8	14.1	51.6	24.4	33.4	15.8	31.3	14.8
H_148	2	25.8	12.2	58.5	27.7	50.5	23.9	54.3	25.7	44.0	20.8	38.7	18.3
	3	24.7	11.7	59.6	28.2	49.5	23.4	68.1	32.2	43.1	20.4	40.4	19.1
H_168	2	39.7	18.8	88.1	41.7	67.8	32.1	96.6	45.7	73.5	34.8	63.6	30.1
	3	38.3	18.1	92.4	43.7	71.4	33.8	115.0	54.4	72.1	34.1	65.9	31.2

Do not mix oils from different manufacturers. If a change to another type or brand of oil is made, the existing lubricant should be drained and the gearcase flushed with a small quantity of the new lubricant before refilling with the new lubricant. This is necessary to avoid possible incompatibility problems between the two lubricants. The list below gives approved alternative lubricants. This is not an exclusive list. Equivalent lubricants from other manufacturers may be used.

Lubricant Selection Table

Ambient Temperature*	Oil Type	ISO Viscosity Grade	Examples of Lubricants			
			Mobil	Tribol	Exxon	Chevron
10° F to 104° F (-12° C to 40° C)	Mineral Oil	220	Mobilgear 630 (standard fill)	Tribol 1100/220	Spartan EP220	FM220X USDA H1 Food Grade
0° F to 70° F (-18° C to 21° C)	Mineral Oil	100	Mobilgear 627	Tribol 1100/100	Spartan EP100	FM100X USDA H1 Food Grade
-35° F to 125° F (-37° C to 53° C)	Synthetic Oil	220	Mobil SHC 630	Tribol 800/220	—	—
	Mineral Grease (For Ball and Roller Bearings)		Mobil AW2, AW3	—	Unirex "N2", "N3"	—

Other brand recommendations are available upon request. For assistance contact Application Engineering.
*Ambient temperatures listed are for lubricant only and do not indicate a particular gear unit's suitability to run in that ambient. Recommendations will be made based on specific application details.

LONG TERM STORAGE

NOTE: Unless an extended warranty has been negotiated prior to sale, time in storage is considered time in service for warranty purposes.

If the drive is not installed immediately, it should be stored in a clean, dry, protected area. During periods of long term storage (six months or longer) special procedures must be followed. The unit should be filled to the highest oil level hole with an approved lubricant blended with 2%, by volume, of "Daubert Chemical Co. Nox-Rust VCI-105" oil. Apply a thick coating of rust preventative on all unpainted surfaces including threads, bores, keyways, and shafts. Apply a thick coating of chassis-type grease to all exposed shaft seals. If the unit is to be stored outdoors or in a damp, unheated area indoors, cover the entire exterior with a rust preventative. Seal the unit in a moisture proof container or wrapping with a desiccant inside. Shade the enclosure from direct sunlight. Rotate the input shaft at least 60 revolutions once a month to redistribute the lubricant and prevent brinnelling of bearings and drying of seals.

Upon removal from storage, remove all protective coatings applied for protection during storage. Check all hardware for proper tightness. Drain and refill the gear reducer with a recommended lubricant. If the gear reducer has been stored for more than three years or in an area with high ambient temperatures, replace the oil seals.

INSTALLATION AND OPERATION

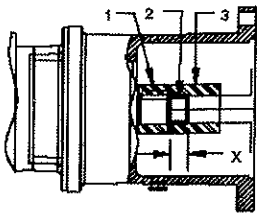
DODGE QUANTIS ILH Reducers are shipped with filling, oil level and drain plugs in place. A separate breather is included with the unit. Before putting the unit into service the filling plug must be replaced with the breather. Install the oil level plug and breather plug in the correct location for the appropriate mounting position using the mounting position diagrams shown on pages 2 and 3. Add or drain oil to get to the correct oil level for the mounting position used.

Review the dataplates on the reducer and drive motor to verify that the drive is correct for the intended loads, speeds and power supply. The gear reducer should be installed in a location that meets the following requirements:

- Ambient temperatures below 100°F (40°C).
- Free flow of air around the motor.
- Good access to gear reducer and motor for maintenance.
- A flat, level, rigid steel mounting surface.
- All four feet of the foot-mounted unit must be evenly supported.
- The flange mounted unit must have even support at the flange face.
- Units supported by both flange and feet must be shimmed to avoid housing stress.
- Good alignment to both input and output devices.

INSTALLATION OF COMPONENTS ON GEAR REDUCER SHAFTS

Use care when installing couplings, sprockets and sheaves (pulleys) on the DODGE QUANTIS ILH input and output shafts. Such components should not be hammered into place. Damage to shafts and bearings may result. If parts do not slip into place easily, check for dirt or burrs that may be binding the assembly. Very tightly fitted parts may need to be heated to get them onto the shafts. Keys should be located for maximum engagement between the shaft and the associated part. Sprockets and sheaves should be mounted as close to the gearcase as possible to minimize overhung loads. Retaining hardware (setscrews, etc.) for couplings, sprockets and sheaves should be tightened as recommended by the component manufacturer. Chain and belt drives must be aligned to run true. Tighten chains and belts according to the chain or belt manufacturer's instructions. Excessive tension results in rapid chain and belt wear and reduces the bearing life of the DODGE QUANTIS ILH unit.



1. Reducer Coupling Hub
2. Coupling Element
3. Motor Coupling Hub

x – Distance from motor shaft end to end face of coupling half.
Note: The length of the coupling jaws is NOT included in dimension x.

Figure 1 Three Piece Coupling Assembly

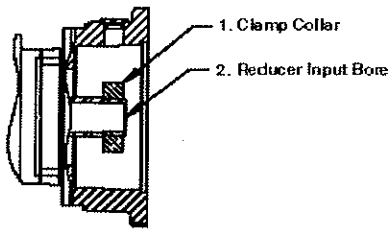
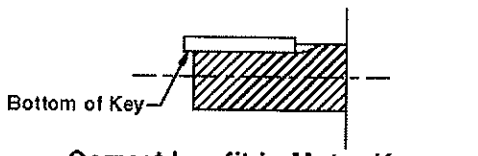


Figure 2 Clamp Collar Assembly



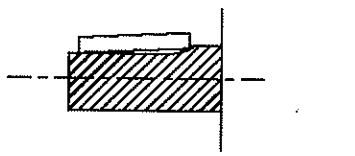


Figure 3 Clamp Collar Motor Key Fit

MOUNTING MOTORS TO C-FACE REDUCERS

FOR 3-PIECE COUPLED INPUT REDUCERS Reference Figure 1	FOR CLAMP COLLAR INPUT REDUCERS Reference Figure 2
Prepare the motor by checking the motor shaft extension for dirt or damage. Remove any anti-rust coating that may be on the shaft. Apply a thin even coating of anti-seize compound to the entire motor shaft.	Prepare the motor by checking the motor shaft extension for dirt or damage. Remove any anti-rust coating that may be on the shaft. Apply a thin even coating of anti-seize compound to the entire motor shaft.
Insert the coupling key into the motor shaft keyway. Slip the motor coupling half onto the motor shaft and locate it a distance "x" from the motor shaft end. Refer to Figure 1 for definition of distance "x". Refer to the table on page 7 for values of "x" for each motor.	Check the input bore for dirt or damage. Clean the bore if necessary.

FOR 3-PIECE COUPLED INPUT REDUCERS Reference Figure 1	FOR CLAMP COLLAR INPUT REDUCERS Reference Figure 2
Tighten the motor coupling half setscrew to the correct torque value listed below.	**For NEMA motors ONLY:** A special long, tall motor key is provided with the QUANTIS unit. 1. Discard the motor key and replace it with the special key provided. 2. If the special key does not fit snugly in the motor shaft keyway, prepare the key for assembly by nicking its bottom in a couple of spots. A chisel may be used to accomplish this. This must be done on a work surface away from the QUANTIS unit and the motor. This nicking should widen the key bottom and cause it to fit snugly in the motor keyway. Refer to Figure 3 for definition of key bottom. 3. Install the key in the motor shaft keyway by lightly tapping in in place with a rubber mallet. 4. Locate the key so that it sits flat in the motor shaft keyway. The key will probably extend beyond the end of the motor shaft. This is OK. The key **MUST NOT** sit tilted in the keyway. A tilted fit can occur when a motor shaft has a sled runner keyway. Refer to Figure 3. The DODGE QUANTIS ILH C-Face reducer should be firmly anchored to prevent sliding as the motor is mounted. The motor should be rotated on its axis so the motor flange holes line up with the reducer input flange (bell) holes. Check to be sure the motor conduit box, grease fittings and condensate drains (where fitted) will be oriented as needed by the reducer mounting position. Motor end shields may have to be removed and rotated in some installations to permit proper positioning.
Check that the reducer coupling half, with its key in place, is mounted on the reducer input shaft inside the C-face adapter. Make sure this coupling half is mounted on the reducer shaft such that the shaft extends the complete length of the coupling bore. Insert the coupling spider properly into the coupling jaws.	
The DODGE QUANTIS ILH C-Face reducer should be firmly anchored to prevent sliding as the motor is mounted. The motor should be rotated on its axis so the motor flange holes line up with the C-Face adapter holes. Check to be sure the motor conduit box, grease fittings and condensation drains (where fitted) will be oriented as needed by the reducer mounting position. Motor end shields may have to be removed and rotated in some installations to permit proper positioning.	
Hoist motor level and in line with reducer input shaft.	Hoist motor level and in line with reducer input shaft.
Align the motor coupling half such that its jaws are aligned with the gaps between the spider and the reducer coupling half jaws. Push the motor into place. Motor flange to C-face adapter clearances are tight and good alignment is essential.	Align the motor shaft with the gear reducer input bore making sure that the motor shaft keyway is in line with the input bore key. Push the motor into place. Motor shaft to input bore clearances are tight and good alignment is essential.
Insert and tighten the motor retaining bolts. Tighten to the correct torque value listed below.	Insert and tighten the motor retaining bolts. Tighten to the correct torque value listed below.

FOR 3-PIECE COUPLED INPUT REDUCERS Reference Figure 1		
NEMA Motor	**Motor Bolt**	**Bolt Tightening Torque**
56-140 Frame	3/8 – 16	276 lb-in (31 Nm)
180 Frame	1/2 – 13	660 lb-in (75 Nm)
210 Frame	1/2 – 13	660 lb-in (75 Nm)
250 Frame	1/2 – 13	660 lb-in (75 Nm)
280 Frame	1/2 – 13	660 lb-in (75 Nm)
320 Frame	5/8 - 11	1320 lb-in (150 Nm)
360 Frame	5/8 - 11	1320 lb-in (150 Nm)
IEC Motor	**Motor Bolt**	**Bolt Tightening Torque**
71	M8	220 lb-in (25 Nm)
80	M10	440 lb-in (50 Nm)
90	M10	440 lb-in (50 Nm)
100	M12	800 lb-in (90 Nm)
112	M12	800 lb-in (90 Nm)
132	M12	800 lb-in (90 Nm)
160	M16	1860 lb-in (210 Nm)
180	M16	1860 lb-in (210 Nm)
200	M16	1860 lb-in (210 Nm)
225	M16	1860 lb-in (210 Nm)
250	M16	1860 lb-in (210 Nm)

FOR CLAMP COLLAR INPUT REDUCERS Reference Figure 2		
NEMA Motor	**Motor Bolt**	**Bolt Tightening Torque**
56-140 Frame	3/8 – 16	276 lb-in (31 Nm)
180 Frame	1/2 – 13	660 lb-in (75 Nm)
210 Frame	1/2 – 13	660 lb-in (75 Nm)
250 Frame	1/2 – 13	660 lb-in (75 Nm)
280 Frame	1/2 – 13	660 lb-in (75 Nm)
320 Frame	5/8 – 11	1320 lb-in (150 Nm)
360 Frame	5/8 – 11	1320 lb-in (150 Nm)
IEC Motor	**Motor Bolt**	**Bolt Tightening Torque**
71	M8	220 lb-in (25 Nm)
80	M10	440 lb-in (50 Nm)
90	M10	440 lb-in (50 Nm)
100	M12	800 lb-in (90 Nm)
112	M12	800 lb-in (90 Nm)
132	M12	800 lb-in (90 Nm)
160	M16	1860 lb-in (210 Nm)
180	M16	1860 lb-in (210 Nm)
200	M16	1860 lb-in (210 Nm)

FOR 3-PIECE COUPLED INPUT REDUCERS Reference Figure 1	FOR CLAMP COLLAR INPUT REDUCERS Reference Figure 2
View the coupling assembly through the access hole in the C-face adapter. 1. Make sure the coupling jaws fully engage the spider. If they do not, loosen the setscrew in the reducer coupling half and slide it forward until full jaw engagement is achieved. However, make sure the jaws on one coupling half do not contact the hub of the other coupling half. 2. Reaching through the access hole in the C-face adapter with a hex key, tighten the coupling setscrew on the reducer coupling half to the recommended torque given below.	View the clamp collar through the access holes in the C-face adapter. 1. Rotate the clamp collar to locate the setscrew over the key. 2. Reach through the access hole in the C-face adapter with a hex key and tighten the clamp collar clamping bolt to the recommended torque value given below. 3. Then tighten the setscrew to the recommended torque given below. **NOTE: The clamping bolt MUST be completely tightened BEFORE the setscrew is tightened against the key. If this sequence is not followed carefully the setscrew may loosen in service allowing the key to come out.**
Replace the access hole plugs in the C-face adapter.	Replace the access hole plugs in the C-face adapter.
NOTE: A TEE handle hex key wrench is not stiff enough to properly tighten the coupling set screws. A large diameter socket wrench extension with a short hex key insert must be used in conjunction with a torque wrench. Failure to tighten the setscrews to the proper torque may result in movement between shafts and coupling components and cause premature wear on the shafts, coupling and keys.	**NOTE: A TEE handle hex key wrench is not stiff enough to properly tighten the clamp collar bolt. A large diameter socket wrench extension with a short hex key insert must be used in conjunction with a torque wrench. Failure to tighten the clamp collar to the proper torque may result in movement between motor and reducer shafts and cause premature wear on the shafts and key.**

NEMA Motor	Coupling Size	Set Screw Size	Set Screw Tightening Torque	Motor Coupling Half Position Dimension "x"
56	19	M5	18 lb-in (2 Nm)	0
140	19/24	M5	18 lb-in (2 Nm)	0
180	24/28	M5	18 lb-in (2 Nm)	0
210	28/38	M6	42 lb-in (4.8 Nm)	0
250	38/45	M8	90 lb-in (10 Nm)	0
280	42/55	M8	90 lb-in (10 Nm)	0
320	48/60	M8	90 lb-in (10 Nm)	0
360	55/70	M10	150 lb-in (17 Nm)	0

NEMA Motor	Clamp Bolt	Clamping Bolt Tightening Torque	Set Screw Size	Set Screw Tightening Torque
56	M6	90 lb-in (10 Nm)	M4	27 lb-in (3 Nm)
140	M6	90 lb-in (10 Nm)	M4	27 lb-in (3 Nm)
180	M8	220 lb-in (25 Nm)	M6	90 lb-in (10 Nm)
210	M8	220 lb-in (25 Nm)	M6	90 lb-in (10 Nm)
250	M8	220 lb-in (25 Nm)	M6	90 lb-in (10 Nm)
280	M8	220 lb-in (25 Nm)	M6	90 lb-in (10 Nm)
320	M10	440 lb-in (50 Nm)	M8	220 lb-in (25 Nm)
360	M10	440 lb-in (50 Nm)	M8	220 lb-in (25 Nm)

IEC Motor	Coupling Size	Set Screw Size	Set Screw Tightening Torque	Motor Coupling Half Position Dimension "x"
71	19	M5	18 lb-in (2 Nm)	0
80	19/24	M5	18 lb-in (2 Nm)	0
90	19/24	M5	18 lb-in (2 Nm)	0
100	24/28	M5	18 lb-in (2 Nm)	0
112	24/28	M5	18 lb-in (2 Nm)	0
132	28/38	M6	42 lb-in (4.8 Nm)	0
160	38/45	M8	90 lb-in (10 Nm)	0
180	42/55	M8	90 lb-in (10 Nm)	0
200	42/55	M8	90 lb-in (10 Nm)	0
225	48/60	M8	90 lb-in (10 Nm)	0.040 in. (6.0 mm)
250	55/70	M10	150 lb-in (17 Nm)	0

IEC Motor	Clamp Bolt	Clamping Bolt Tightening Torque	Set Screw Size	Set Screw Tightening Torque
71	M6	90 lb-in (10 Nm)	M4	27 lb-in (3 Nm)
80	M6	90 lb-in (10 Nm)	M4	27 lb-in (3 Nm)
90	M8	220 lb-in (25 Nm)	M6	90 lb-in (10 Nm)
100	M8	220 lb-in (25 Nm)	M6	90 lb-in (10 Nm)
112	M8	220 lb-in (25 Nm)	M6	90 lb-in (10 Nm)
132	M8	220 lb-in (25 Nm)	M6	90 lb-in (10 Nm)
160	M8	220 lb-in (25 Nm)	M6	90 lb-in (10 Nm)
180	M8	220 lb-in (25 Nm)	M6	90 lb-in (10 Nm)
200	M10	440 lb-in (50 Nm)	M8	220 lb-in (25 Nm)

WARNING

The DODGE QUANTIS ILH and its connected equipment and accessories must be guarded. Rotating parts such as couplings, pulleys, fans and unused shaft extensions must be permanently guarded by the user against accidental contact with personnel and their clothing. The surface temperature of the DODGE QUANTIS ILH enclosure may reach temperatures which can cause discomfort or injury to personnel accidentally coming into contact with hot surfaces. The user should provide guards to prevent accidental contact with hot surfaces. Guards must be sufficiently rigid to maintain adequate guarding in normal service.

WARNING

Threaded hardware used to mount the DODGE QUANTIS ILH Unit must be SAE Grade 5 or Metric Class 8.8 or better. DO NOT USE HARDWARE OF A LOWER GRADE.

MAINTENANCE

Check oil levels and oil quality regularly. Change oil at the intervals specified in the Lubricants section of this document. Check alignments of drive components regularly. Check chain and belt tensions and hardware tightness periodically too.

IMPORTANT DODGE CONTACTS

DODGE Application Engineering	864-297-4800
DODGE Renewal Parts	864-297-4160
DODGE Warranty Administration	864-284-5514
DODGE Service Engineers	864-284-5514

DODGE® QUANTIS® ILH Reducers
Bolts to be used on Mounting Feet and B5 Output Flanges

In addition to the bolts below, it is recommended that a lockwasher or other anti-loosening device be used.

Unit Size	Grade 5 Inch	Grade 8.8 Metric
38	5/16-18 UNC	M8 x 1.25
48	1/2-13 UNC	M12 x 1.75
68	5/8-11 UNC	M16 x 2
88	5/8-11 UNC	M16 x 2
108	3/4-10 UNC	M20 x 2.5
128	7/8-9 UNC	M24 x 3
148	1-1/4-7 UNC	M30 x 3.5
168	1-1/2-6 UNC	M36 x 4

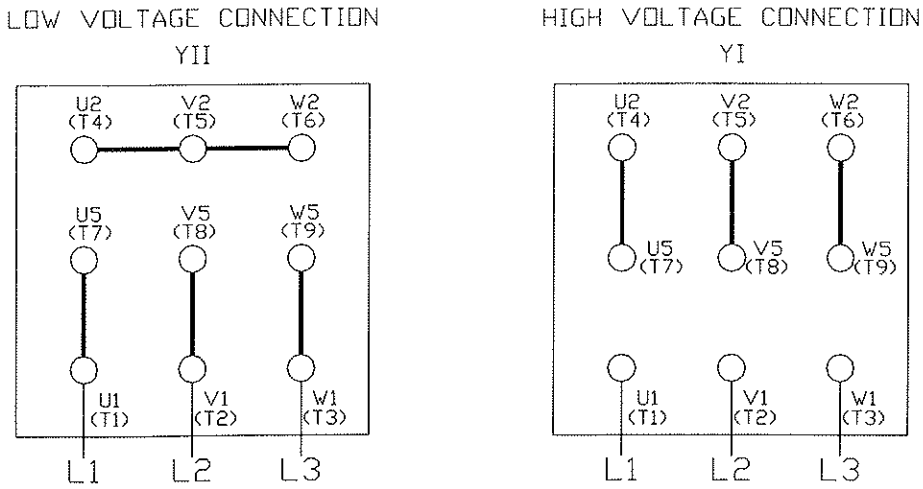
Bolts and Tightening Torque for B5 Output Flanges
(Output Flange to Gearcase)

Unit Size	Bolt – 8.8 Property Class	Tightening Torque (Nm)	Tightening Torque (ft-lb)
38	M8	25	18
48	M10	50	37
68	M12	90	66
88	M16	210	155
108	M16	210	155
128	M16	210	155
148	M16	210	155
168	M16	210	155

Wiring Diagram for Dual Voltage/Single Speed Integral Motor

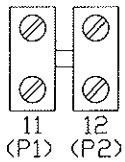
Basic Wiring

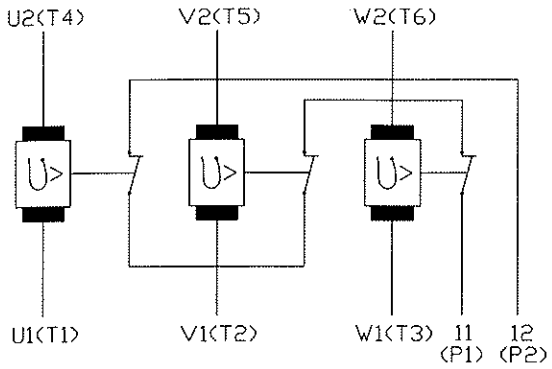
Terminal Markings According to NEMA MG 1-2 (IEC Publication 34-8).



Wiring With Thermal Protection (Temperature Switch)

11 + 12 Normally Closed: Normally they are connected with the retaining circuit of the motor relay.





Three Insulated Thermal Protectors (Breakers) fitted to the winding.
Maximum Voltage 250V
Maximum Current 1.6A

Wiring Diagram for Brake with Rectifier

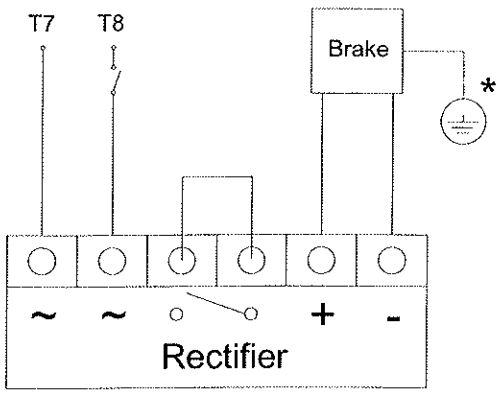
Please Observe Control Voltage According to Nameplate

U~ = AC Supply

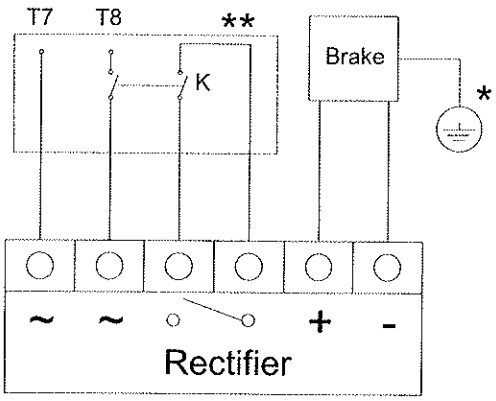
***) = If Existing**

****) The rectifiers meet the requirements of the EMC according to EN50011, Cl.A. They are protected as standard by varistors on AC and DC side. When switched by means of AC and DC the usage of a suitable interference suppressor (RC unit, spark suppressor, mains filter) is recommended to avoid undesired or prohibited cracking or inductive voltage respectively. If the number of cycles is 7300/hour, the user is asked to check meeting the limits (eg: EN50011, Cl.A) separately.**

Rectifier Type 1:

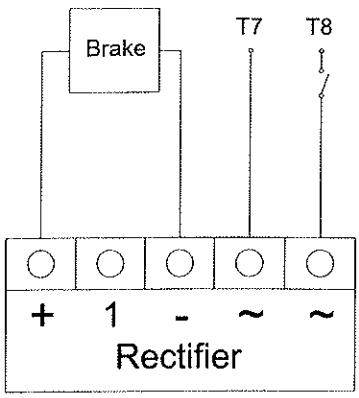


Brake switched by AC only

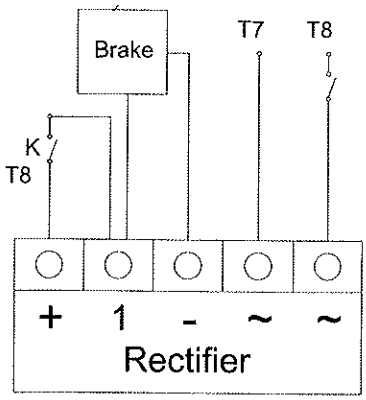


Brake switched by AC and DC (with Contact K)

Rectifier Type 2:



Brake switched by AC only



Brake switched by AC and DC (with Contact K)

For 230/460v motors, the standard brake coil voltage is 103v DC. By connecting the brake rectifier to terminals T7 and T8 of the motor 9-terminal block, the brake will operate for either a 230vac or 460vac motor connection. If a VFD or soft start control is used for motor control, then the brake cannot be powered from the motor terminal block. It must receive power from a separate supply.

IMPORTANT DODGE CONTACTS

DODGE Application Engineer	**864-297-4800**
DODGE Renewal Parts	**864-297-4160**
DODGE Warranty Administration	**864-284-5514**
DODGE Service Engineers	**864-284-5514**

www.rockwellautomation.com **www.ptplace.com** **www.dodge-pt.com** **www.reliance.com** **www.ptplace.ca**

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Asia Pacific: Rockwell Automation, 55 Newton Road, #11-01/02 Revenue House, Singapore 307987, Tel: (65) 6356-9077, Fax: (65) 6356-9011

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Asia Pacific: Rockwell Automation, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

6/03-10M-K

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