

Description

The Harmonic Drive ISR Series speed reducer is a proven power transmission that will provide thousands of service-free operating hours when properly lubricated and operated within the specified ratings. Workmanship and material is warranted for one year from date of delivery; however, the average life under rated conditions is expected to be at least 15,000 hours. Parts List and Installation Drawings are available on request.

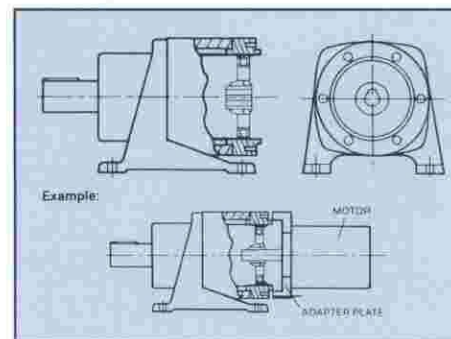
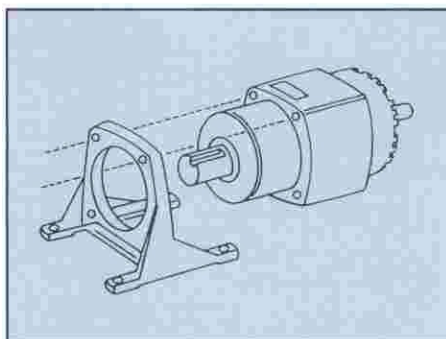
Installation

ISR Series speed reducers are offered for foot mounting (-0), face mounting (-1), and close couple (-cc) installations. Optional horizontal wall or ceiling mounting can be easily accomplished by simply repositioning the ISR housing in the mounting foot to maintain the vent plug in an upright vertical position. The ISR can be face mounted or foot mounted using the same four screw holes.

Close couple ISR reducers are identical to standard units except that the end cover and input shaft are removed. They can be used where space restrictions require a motor/gearhead configuration. The motor frame is connected to the reducer housing through an adapter plate normally furnished by the user. The motor shaft connects directly to the input stage of the reducer.

Lubrication

Oil
ISR reducers are shipped ready for horizontal, floor mounted service using oil lubrication unless otherwise specified. Automatic transmission fluid with a maximum 200°F operating temperature is recommended for normal drive conditions and must be



added by the user to the prescribed level prior to operation. The approximate required volume is shown in the chart below. Consult the factory for alternate recommendations when abnormal conditions exist.

Size	3C	5C	1M	2M	4M
Oil Vol. (Fl. Oz.)	1.7	3.4	6.8	13.6	27

For vertical operation, oil fill, vent, and drain plugs must be rearranged. The only recommended vertical attitude is with the output shaft facing downward. Consult the factory for lubricating procedures.

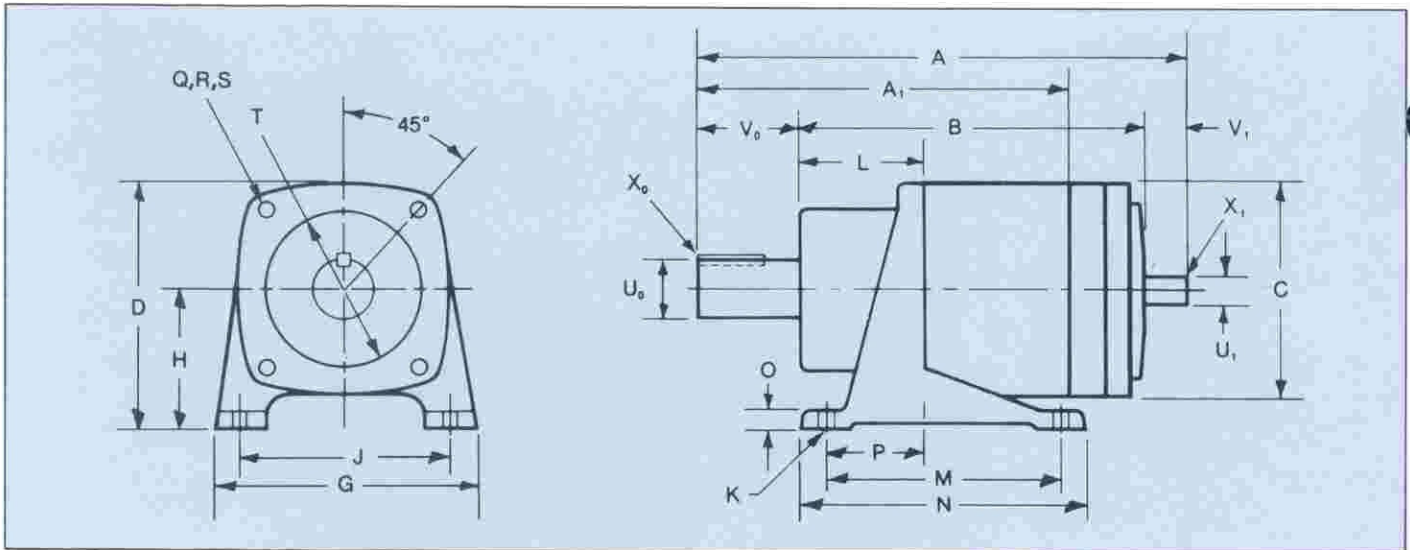
Oil changes are recommended after the first 100 hours of operation and every 1000 hours or six months thereafter, whichever occurs first.

Grease

ISR units can be shipped with grease lubrication when specified by the customer. Because of the typically lower thermal ratings for grease lubrication, such units should not be operated at rated output torque at continuous input speeds greater than those shown below.

Size	3C	5C	1M	2M	4M
RPM	2800	2200	1700	1400	1100

Rated or higher input speeds can be considered for intermittent operation and/or reduced output torque conditions. While grease-lubricated units may be mounted and operated in any altitude, we recommend that users consult the factory for specific application recommendations.



Dimensions (inches)

	ISR SIZE*	3C	5C	1M	2M	4M
Envelope	A length, overall (-0 or -1)	7.69	9.06	10.94	13.19	15.81
	A ₁ length, overall (-cc)	5.70	6.70	8.70	10.20	12.5
	B length, body	4.94	5.88	7.56	9.12	10.69
	C body width/height	2.69	3.38	4.38	5.38	6.75
	D height, w/foot	3.22	3.88	5.19	6.19	7.50
	G width, foot	3.88	4.44	5.56	6.56	8.12
	H height, centerline	1.88	2.19	3.00	3.50	4.12
Foot Mounting	J hole to hole	2.75	3.31	4.31	5.31	6.69
	K hole diameter	.28	.28	.34	.41	.41
	L face to face	1.81	2.25	3.13	3.31	3.75
	M hole to hole	2.81	3.38	4.94	5.88	6.94
	N foot length	3.94	4.50	6.19	7.12	8.38
	O foot thickness	.44	.44	.50	.56	.62
	P hole to face	1.19	1.66	2.25	2.53	3.03
Face Mounting	Q thread (NC)	#10-24	1/4-20	3/8-16	7/16-14	1/2-13
	R thread depth	.31	.50	.75	.75	.75
	S bolt circle diameter	2.75	3.44	4.44	5.50	6.88
	T pilot diameter	2.25	2.50	3.50	4.00	4.75
Input Shaft	U ₁ diameter	.375	.500	.500	.625	.625
	V ₁ length	1.12	1.25	1.25	1.44	1.75
	X ₁ keyway (-0 or -1)	FLAT	FLAT	FLAT	19 x .09	19 x .09
	overhung load rating (lb)	60	150	160	215	220
	starting torque lb-in (approx)	0.6	0.9	1.3	2.0	3.5
Output Shaft	U ₀ diameter	.625	.875	1.125	1.375	1.750
	V ₀ length	1.62	1.95	2.12	2.65	3.38
	X ₀ key	.19 sq	.19 sq	.25 sq	.31 sq	.38 sq
	overhung load rating (lb)	290	930	2100	2500	3600
Close Couple Input	bore	.38	.50	.50	.63	.63
	keyway width	.094	.125	.125	.188	.188
Weight	unit (lbs)	6.0	10.0	20.5	32.5	61.0

NOTE: Catalog dimensions are for reference and suitable for general layout purposes only. Detailed specifications on dated prints will be furnished on request. Harmonic Drive Technologies reserves the right to change designs and specifications without prior notice.

* Larger size ISR reducers are available on special request. Please consult factory for details.



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