BT Pinch Roll Reduction Units

- **Hardened and ground AISI 4150 steel worms**
- **Bronze-rim worm gears with cast iron centers**
- **Heat-treated steel output shafts in horizontal and up- or down-vertical configurations**
- **Tapered and spherical roller bearings**
- **Fabricated steel housings**

Example of selection procedure

1. A 1750 RPM motor will be used to power a pinch roll unit. Output shaft speed to be approximately 60 RPM. 15 HP input.

2. 1750/60 = 29.17 reduction ratio. Look in 30:1 ratio table on page 25 15/1.5 = 10.0 mechanical input horsepower needed. A BT60 unit with 6.0" center distance provides 10.2 HP and its 29½ nominal ratio gives an output shaft speed of 59.32 RPM.

Features

1. Mechanical input horsepower ratings are 1.5 times the single reduction reducer ratings published on pages 22-27 of this catalog center distances.

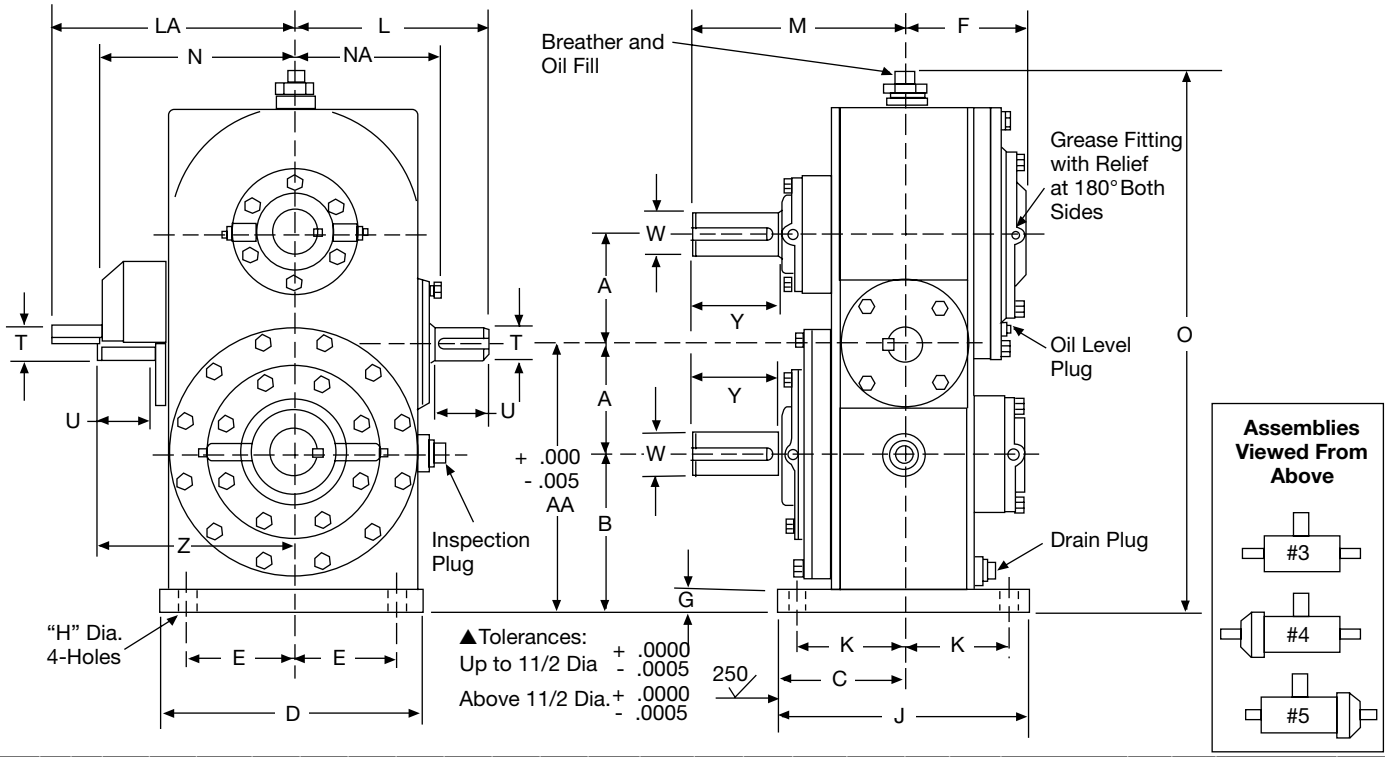
2. Each output shaft will transmit 75% of the torque ratings listed on pages 22-27 of this catalog assuming that the input HP divides equally. This should be the case if both rolls on the output shafts are of the same diameter.

3. Delroyd BT units can be fan-cooled, water-cooled or force feed-cooled with an oil-circulating pump. Contact DELROYD Worm Gear for thermal ratings.

4. All bearings and bearing retainers are designed to withstand the additional thrust imposed by driving two gears with a common worm shaft.

5. Delroyd BT units can be furnished with double-end input shafts for mounting in series. All standard worms are designed to carry 10,000 psi torsional stress. If input torque results in a torsional stress greater than 10,000 psi, a larger root diameter worm must be selected when driving worms in series. Before final selection is made for tandem-driving units, consult Delroyd Worm Gear.

6. The Delroyd involute helicoid thread form permits simple, accurate gearing adjustments without running in expensive matched, lapped worm and gear sets.



Unit Size	C.D.	A	AA	B	C	D	E	F	G	H	J	K	L	LA	M	N	NA	O	T▲	U	Keyway	W▲	Y	Keyway	Z
BT30	3	3	7-1/4	4-1/4	4.125 4.120	7-1/2	3	3-11/16	1/2	9/16	8-1/4	3-3/4	6-1/8	7-13/16	6	5-15/16	4-3/16	14-1/4	7/8	1-7/8	3/16 x 3/32 x 1-13/16	1-1/4	2-1/2	1/4 x 1/8 x 2-3/8	6-1/8
BT40	4	4	9-1/4	5-1/4	5.000 4.995	10-1/4	4-1/4	4-7/8	3/4	13/16	10	4-1/4	7-3/4	9-13/16	8-1/2	7-7/8	5-3/4	19-1/2	1-1/8	2-1/16	1/4 x 1/8 x 2	1-3/4	3-1/2	3/8 x 3/16 x 3-7/16	7-3/4
BT50	5	5	12-1/4	7-1/4	5.625 5.620	11-3/4	4-3/4	5-1/2	1	13/16	11-1/4	4-3/4	8-3/4	10-15/16	9-5/8	8-5/8	6-3/8	24-3/4	1-3/8	2-5/16	5/16 x 5/32 x 2-1/4	2	4	1/2 x 1/4 x 3-7/8	8-3/4
BT60	6	6	14-1/2	8-1/2	6.000 5.995	14	5-1/2	6-1/8	1-1/8	15/16	12	5	10-1/4	12-5/8	10-3/4	10-1/16	7-7/8	29-1/4	1-1/2	2-11/16	3/8 x 3/16 x 2-5/8	2-1/4	4-1/2	1/2 x 1/4 x 4-3/8	10-1/4
BT70	7	7	16	9	6.500 6.495	15-1/4	6-1/4	6-7/16	1-1/8	1-1/16	13	5-1/2	11-1/2	13-7/8	11-1/2	10-3/4	8-1/2	32-1/2	1-5/8	3-1/8	3/8 x 3/16 x 3-1/16	2-1/2	5	5/8 x 5/16 x 4-15/16	11-1/2
BT80	8	8	18	10	7.000 6.995	17-1/8	7	6-1/2	1-1/4	1-3/16	14	5-3/4	12-1/2	15-1/2	12-1/8	11 3/4	9-1/2	36-1/2	1-7/8	3-1/8	1/2 x 1/4 x 3-1/16	2-3/4	5-1/2	5/8 x 5/16 x 5-7/16	13-1/8
BT90	9	9	20	11	8.000 7.995	19	7-3/4	7-5/8	1-1/4	1-7/16	16	6-1/2	14-1/4	17-3/4	14-1/4	13-7/8	10-1/2	40-1/2	2-1/8	3-15/16	1/2 x 1/4 x 3-7/8	3-1/4	6-1/2	3/4 x 3/8 x 6-3/8	15-3/16
BT100	10	10	22	12	8.500 8.495	21-1/2	8-3/4	8-5/8	1-1/4	1-7/16	17	7	15-1/2	18-13/16	16	15-1/8	11-13/16	43-3/4	2-1/4	4	1/2 x 1/4 x 3-15/16	3-5/8	7-1/4	7/8 x 7/16 x 7-3/16	15-5/8
BT120	12	12	26	14	10.000 9.995	25-1/4	11	8-7/8	1-1/2	1-9/16	20	8-1/2	18	21-9/16	17-1/2	17	13-9/16	51-1/2	2-1/2	4-9/16	5/18 x 5/16 x 4-1/2	4-1/4	8-1/2	1 x 1/2 x 8-3/8	18-1/8

▲ Tolerances: Up to 1½ Dia. + .0000 - .0005 Above 1½ Dia. + .0000 - .0005