

FSUO TUBE MILL WORM GEAR UNITS



ELECON 

Always a step ahead in technology

Catalogue No. : 198/G/03/10

To meet the requirement of tube mill industry and non- ferrous tube manufacturers, Elecon has developed FSUO Dual Drive type worm gear units. These gear units are also use in individual drive to punch rolls in rolling mills. The worm gear units are robust in construction and comprise of one input shaft driving two gears on parallel output shaft, one shaft moves clockwise where as other moves counter clockwise providing synchronous drive operation. The lubrication is by splashing mineral oil where as top output shaft bearings are grease packed.

RATINGS AT INPUT SPEED 1500 R.P.M.

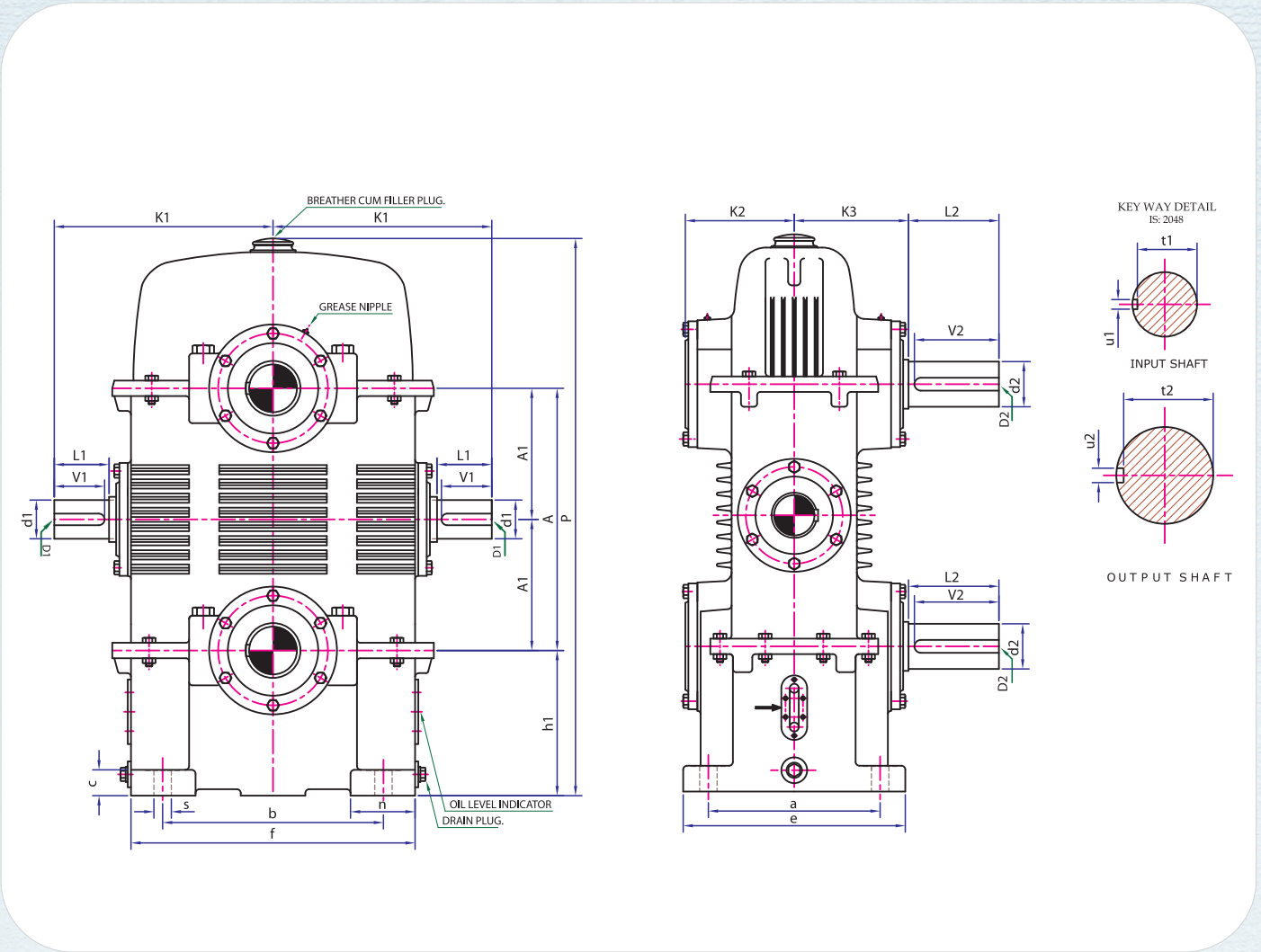
GEAR RATIO	OUTPUT SPEED R.P.M.	CAPACITY	SIZE OF UNIT									
			3	4	5	6	7	8	9	10	12	14
5	300	INPUT POWER kW	6.4	11.3	19.0	33.0	44.0	65.0	74.2	111.0	177.0	247.0
		OUTPUT TORQUE Nm	185.4	336.1	574.5	1008.5	1317.1	1965.7	2242.1	3339.0	4953.5	7406.1
7.5	200	INPUT POWER kW	5.5	8.0	15.0	22.0	34.6	52.2	57.1	83.0	115.2	166
		OUTPUT TORQUE Nm	235.8	355.3	675.8	987.5	1548.0	2342.7	2639.9	3725.4	5129.6	7469.6
10	150	INPUT POWER kW	4.6	7.0	13.2	19.2	26.5	41.4	67.1	58.5	99.5	146.2
		OUTPUT TORQUE Nm	260.6	414.5	773.2	1155.2	1561.8	2477.7	4055.4	3426.6	5901.3	8671.9
15	100	INPUT POWER kW	3.3	6.0	10.0	17.2	24.0	36.0	50.4	52.2	73.0	135.0
		OUTPUT TORQUE Nm	277.7	487.0	821.7	1461.9	2064.0	3163.0	4524.3	4486.6	6427.5	12014.5
20	75	INPUT POWER kW	3.0	5.0	9.2	13.0	20.6	28.1	43.2	49.5	67.5	111.0
		OUTPUT TORQUE Nm	323.4	535.1	964.2	1469.4	2251.2	3246.5	4902.6	5673.0	7757.1	12894.3
25	60	INPUT POWER kW	2.5	4.0	7.2	10.4	16.0	25.2	38.0	40.5	61.0	99.0
		OUTPUT TORQUE Nm	328.9	547.5	974.6	1448.4	2164.8	3409.4	5484.2	5672.7	8477.0	13225.9
30	50	INPUT POWER kW	2.2	3.6	6.0	10.0	13.6	21.0	36.0	36.0	50.4	83.0
		OUTPUT TORQUE Nm	344.6	598.2	974.1	1623.5	2208.0	3449.5	6188.4	5844.6	8405.2	13218.8
40	37.5	INPUT POWER kW	2.0	3.0	5.0	8.3	12.0	18.0	29.0	31.0	46.0	68.4
		OUTPUT TORQUE Nm	387.1	603.8	1006.9	1695.0	2505.9	3850.6	6573.0	6710.5	9768.4	14523.7
50	30	INPUT POWER kW	1.5	2.4	4.0	7.0	10.4	15.3	24.3	25.2	40.0	56.0
		OUTPUT TORQUE Nm	338.4	611.2	1005.9	1719.9	2582.4	3993.8	6498.0	6417.6	10367.4	14864.4
60	25	INPUT POWER kW	1.3	2.1	3.4	6.0	8.8	13.0	20.0	22.0	33.3	49.3
		OUTPUT TORQUE Nm	347.2	591.9	937.0	1741.9	2554.8	3724.5	5997.3	6639.1	9983.0	15768.0
70	21.4	INPUT POWER kW	1.0	2.0	3.0	5.0	6.8	10.2	17.1	19.0	29.0	41.4
		OUTPUT TORQUE Nm	324.9	660.4	937.2	1561.9	2215.3	3403.8	6181.2	6613.6	10156.3	15044.6

RATINGS AT INPUT SPEED 1000 R.P.M.

GEAR RATIO	OUTPUT SPEED R.P.M.	CAPACITY	SIZE OF UNIT									
			3	4	5	6	7	8	9	10	12	14
5	200	INPUT POWER kW	5.0	10.0	18.0	26.0	37.2	53.2	58.0	90.0	137.0	201.0
		OUTPUT TORQUE Nm	214.8	453.6	829.4	1179.4	1669.8	2445.8	2620.8	4125.6	6154.2	8758.6
7.5	133	INPUT POWER kW	4.2	7.2	14.0	20.0	30.0	43.0	49.0	65.2	99.0	137.0
		OUTPUT TORQUE Nm	270.4	488.2	944.9	1349.9	2024.9	2948.7	3335.0	4434.8	6625.3	8864.0
10	100	INPUT POWER kW	4.0	6.2	12.0	18.0	25.0	35.0	44.0	46.0	83.0	121.0
		OUTPUT TORQUE Nm	340.0	554.2	1065.8	1615.8	2196.5	3175.4	3991.8	4041.6	7386.5	10204.7
15	66.7	INPUT POWER kW	3.1	5.2	7.4	13.2	19.4	27.0	34.0	40.5	61.2	112.5
		OUTPUT TORQUE Nm	387.0	685.0	980.0	1757.7	2550.2	3595.2	4526.6	5276.9	7994.6	14064.6
20	50	INPUT POWER kW	2.2	5.0	7.0	10.4	14.0	22.0	28.0	38.0	56.0	92.0
		OUTPUT TORQUE Nm	376.5	852.6	1169.8	1748.0	2299.7	3529.6	4973.6	6459.6	9542.9	14997.8
25	40	INPUT POWER kW	2.0	4.0	6.0	8.2	12.5	19.0	24.3	30.0	48.0	72.0
		OUTPUT TORQUE Nm	405.8	821.3	1216.9	1675.4	2562.5	3991.9	5105.7	6159.7	10075.0	14329.4
30	33.4	INPUT POWER kW	1.6	3.4	5.0	7.2	11.4	17.0	21.0	27.0	43.2	65.4
		OUTPUT TORQUE Nm	375.1	807.0	1219.7	1749.9	2734.2	4131.6	5179.4	6659.2	10695.4	15462.6
40	25	INPUT POWER kW	1.5	3.0	4.0	6.2	9.0	13.1	18.0	23.4	38.0	54.2
		OUTPUT TORQUE Nm	459.6	898.1	1237.7	1907.0	2819.1	4087.8	5775.3	7598.0	12106.4	17057.7
50	20	INPUT POWER kW	1.2	2.1	3.4	5.3	8.0	12.0	14.0	19.0	32.4	44.1
		OUTPUT TORQUE Nm	398.8	735.0	1235.4	1941.4	2941.4	4584.0	5414.8	7530.2	12139.8	17352.5
60	16.7	INPUT POWER kW	1.0	2.0	3.0	4.3	7.0	10.0	12.0	16.0	27.0	35.1
		OUTPUT TORQUE Nm	392.0	846.3	1235.3	1803.4	2922.2	4288.9	5489.8	7319.8	11963.3	16740.0
70	14.3	INPUT POWER kW	0.9	1.7	2.5	4.0	5.5	8.0	9.1	13.1	29.0	31.0
		OUTPUT TORQUE Nm	389.0	784.7	1170.6	1816.5	2654.2	3789.5	5365.1	6536.4	10156.3	16247.5

-The Ratings are based on service factor of 1, continuously transmitted for 12 hours/day with normal overload of 100% momentarily for 15 seconds, 40% for 30 minutes,25% for 2 hours.
-Output torque per Shaft in Nm.

FSUO – Dimensions



SIZE	MOUNTING DIMENSIONS							CLEARANCE DIMENSIONS							SHAFT END DETAILS													
	a	b	c	e	f	n	s	h1	A1	A	K1	K2	K3	P	d1	L1	d2	L2	V1	V2	D1	t1	u1	D2	t2	u2		
3 FSUO	182	140	22	222	184	50	14	90	76.2	152.4	168	107	111	370	25	57	38	75	54	72	M8	21	8	M12	33	10		
4 FSUO	204	216	32	254	270	60	23	125	101.6	203.2	229	124	127	470	32	64	45	88	60	85	M12	27	10	M16	39.5	14		
5 FSUO	230	250	32	280	320	60	23	150	127	254	260	134	137	570	35	70	50	95	67	92	M12	30	10	M16	44.5	14		
6 FSUO	240	266	32	305	350	80	23	170	152.4	304.8	279	156	160	660	38	76	58	114	73	111	M12	33	10	M20	52	16		
7 FSUO	258	308	36	320	400	90	27	190	177.8	355.6	311	158	162	760	40	82	65	130	79	127	M16	35	12	M20	58	18		
8 FSUO	266	342	40	344	440	100	27	225	203.2	406.4	342	169	172	865	45	88	70	140	85	137	M16	39.5	14	M20	62.5	20		
9 FSUO	282	390	40	344	490	100	27	255	228.6	457.2	375	177	180	980	50	95	75	125	92	122	M16	44.5	14	M20	67.5	20		
10 FSUO	350	470	50	430	580	110	33	285	254	508	450	198	202	1095	60	115	80	150	110	147	M20	53	18	M20	71	22		
12 FSUO	440	530	55	540	630	125	33	330	304.8	609.6	485	208	216	1295	60	125	85	165	120	160	M20	53	18	M20	76	22		
14 FSUO	470	620	65	560	770	150	33	395	355.6	711.2	590	258	280	1505	80	140	110	200	135	195	M20	71	22	M24	100	28		

- Key & keyways as per IS 2048, Shaft limits: up to Ø58 – k6 and above Ø58 – m6.
- 17 FSUO Rating & Dimensions , please contact ELECON.
- Unless otherwise specified housing of cast iron. Welded steel on request.

RECOMMENDED LUBRICANTS

1.Mineral Oil

BRAND	GRADE
International Brands	
British Petroleum	CS 320 or GR-XP320
Castrol	Alpha Zn 320 or Sp 320 or Tribol 110/320 IGQA
Caltex	Meropa 320
Esso Petroleum	Teresso 320 or Spartan 320
Fuchs	Renolin CKC 320
Mobil	Mobil DTE Oil AA or Mobilgear 632
Motul	SUPRACO MPL 320
Shell	Vitera Oil 320 or Omela 320
Indian Brands	
Bharat Petroleum	Cabol 320
Fuchs	Renolin CKC 320
Castrol	Alpha Zn 320 or Alpha sp 320 or Tribol 1100/320 TGQA
Gulf	Gulf harmony 320 or Gulf EP 320
Hindustan Petroleum	Enklo 320 or Parthan EP 320
Indian Oil	Servomesh SP 320 or Servosystem 320
Veedol	Avalon 320

2.Recommended Grease : For low speed operations

BRAND	GRADE
Castrol	EPL 2
Indian Oil	Servogem EP 2

Shiping specification & Oil capacity.

Size of Unit	3	4	5	6	7	8	9	10	12	14
Average net weight (kg)	68	146	220	280	380	400	650	970	1325	1895
Average net gross weight (kg)	110	180	300	350	970	480	730	1130	1610	2250
Approximate oil capacity (liters)	3.5	4.5	5.5	7.5	8.5	12.5	17.5	22.5	27.5	38.5

First filling of oil, not supplied unless requested.

As improvement in designing are continuously being made, the details and dimensions are subject to alteration without notice.