



DRIVES FOR PALM OIL INDUSTRIES



Panoramic view of Bhanubhai Memorial Centre of Excellence (BMCE)



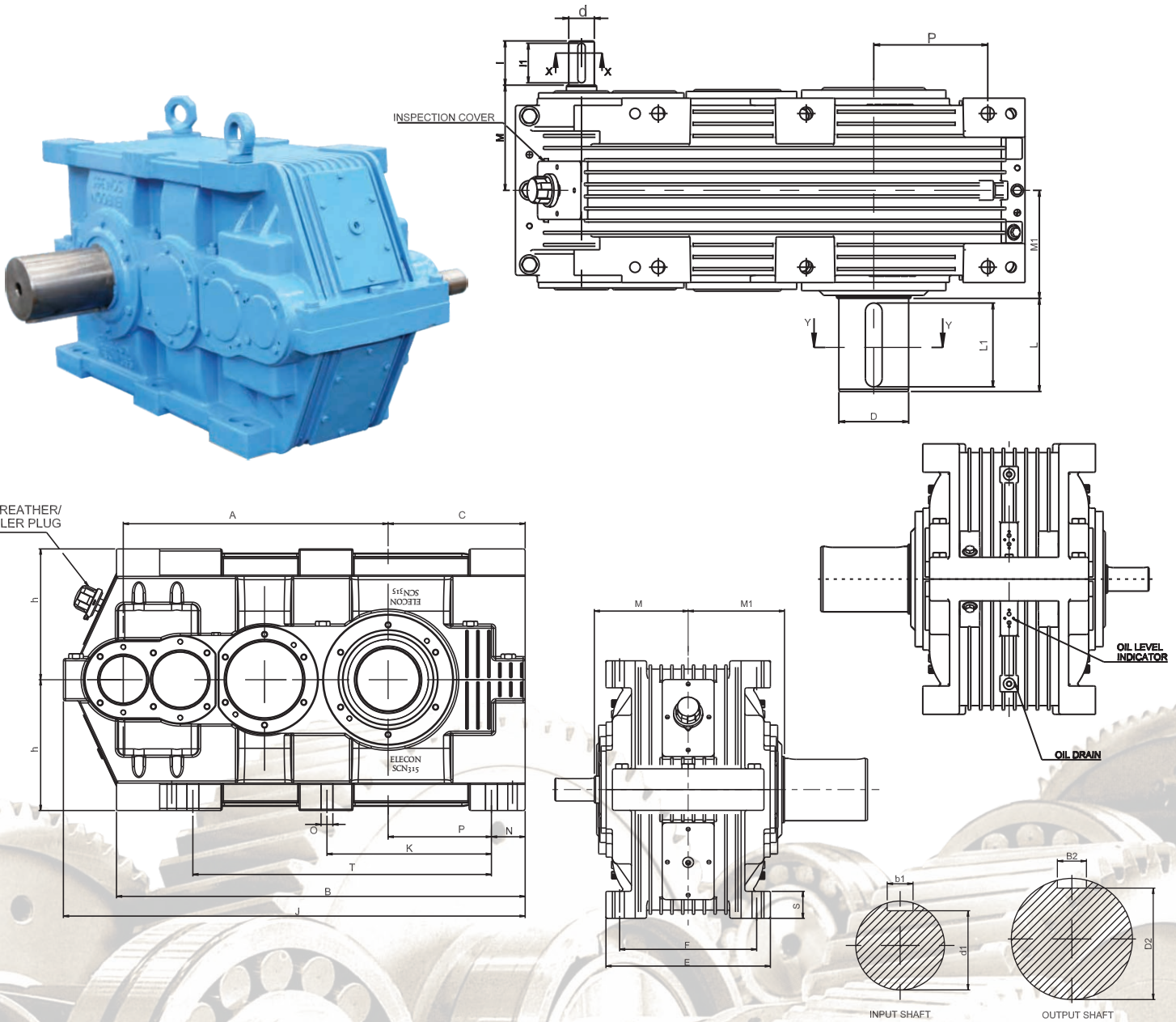
BHANUBHAI MEMORIAL CENTRE OF EXCELLENCE (BMCE)

We have built a new state-of-the-art manufacturing plant as our attempt to move towards evolution. This modern engineering plant has been built to double the gear box manufacturing capacity to provide world class quality and to ensure on-time delivery within a short span of time.

In last five decades, we have done lots of research and innovations in gear technology. We have developed variety of products in transmission business from worm gear to helical, from planetary to vertical planetary, variable speed couplings, etc. This development always demanded overall progress in gear manufacturing technology, right from cutting to carburizing, gear grinding. The extract of learning is used in layout, machine selection as well in process improvement of gear manufacturing. The new plant will produce internal components of the helical gear box and has a capacity of manufacturing 1000 gear boxes per month.

This new plant is a tribute to our founder Chairman Lt. SHRI BHANUBHAI PATEL who wanted to remain "ALWAYS A STEP AHEAD IN TECHNOLOGY."

Kernel Expeller Drives



TECHNICAL DATA

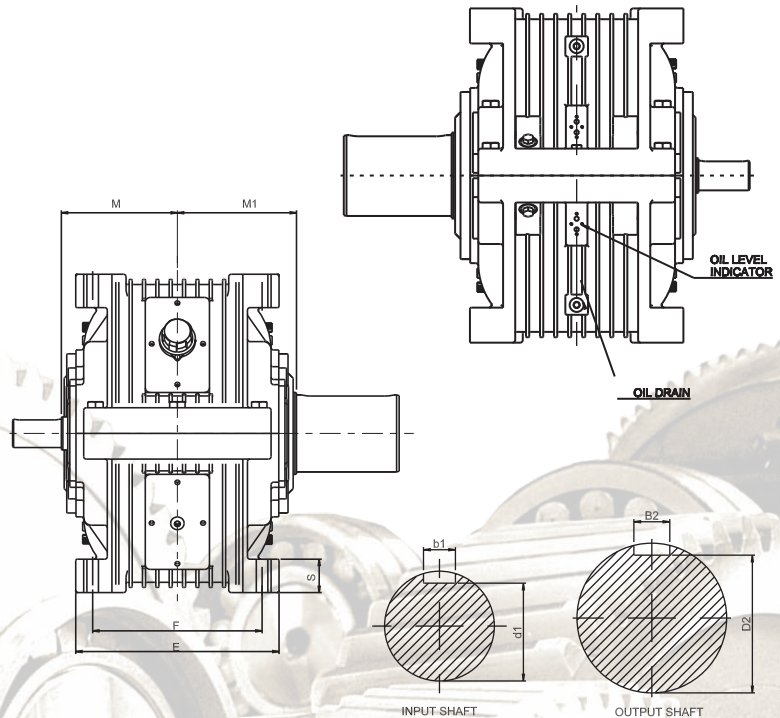
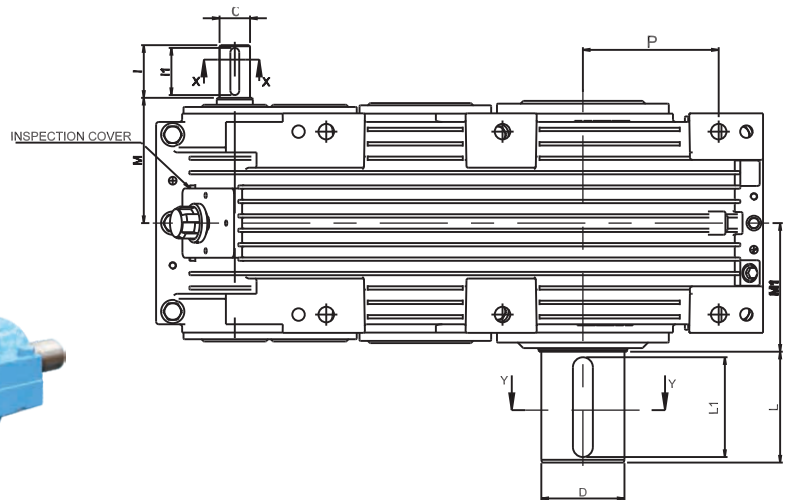
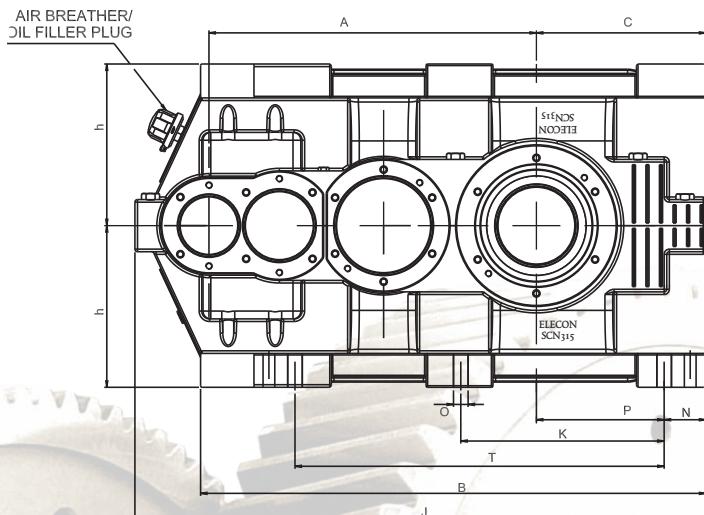
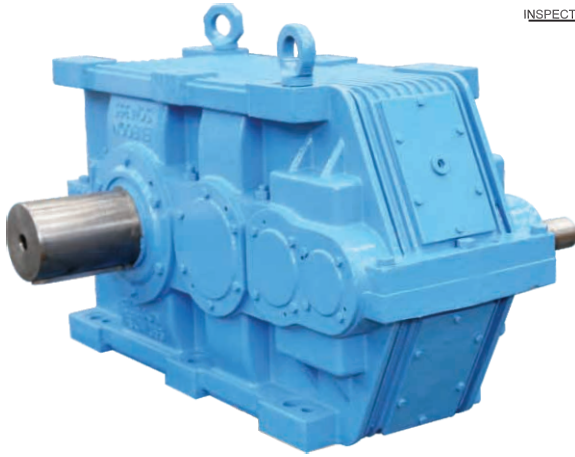
GEAR UNIT	Mechanical Power Rating (kW)		Mechanical Torque Rating	Exact Ratio	Speed (RPM)	
	@n ₁ =1000 RPM	@n ₁ =750			n ₁ /n ₂	n ₁ / n ₂
SCN 355/SO POD	143	107	75 kNm	55.008	1000/18.17	750 / 13.63

HOUSING DIMENSIONS (mm)

GEAR UNIT	A	B	C	E	F	h	J	K	M	N	O	P	T	S
SCN 355/SO POD	715	1002	370	460	378	350	1227	468	251	70	35	300	833	65

GEAR UNIT	INPUT SHAFT					OUTPUT SHAFT					Wt. kgs	Oil Qty.
	Ød	l	d1	l1	b1	D	L	D2	L1	B2		
SCN 355/SO POD	65 m6	140	58	125	18 P9	170 m6	240	157	220	40	1117	73

Screw Press Drives



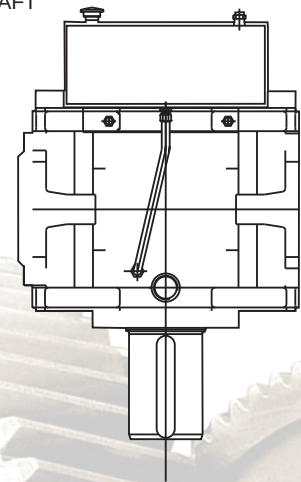
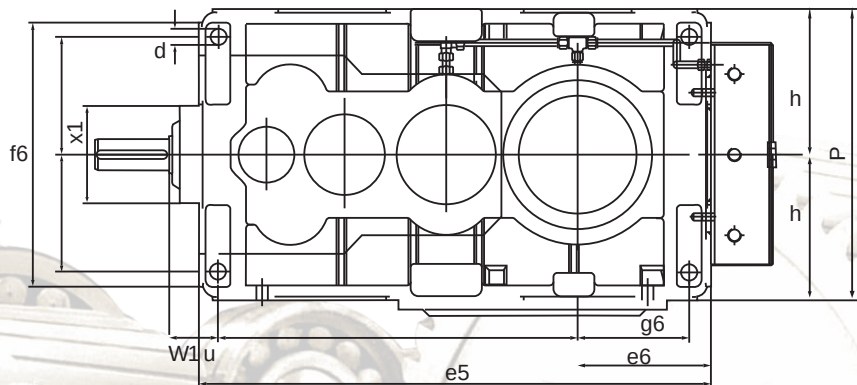
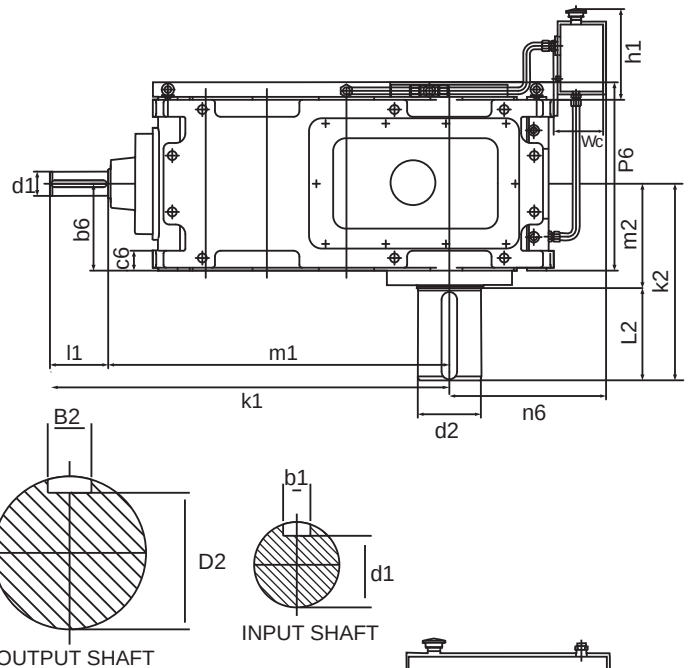
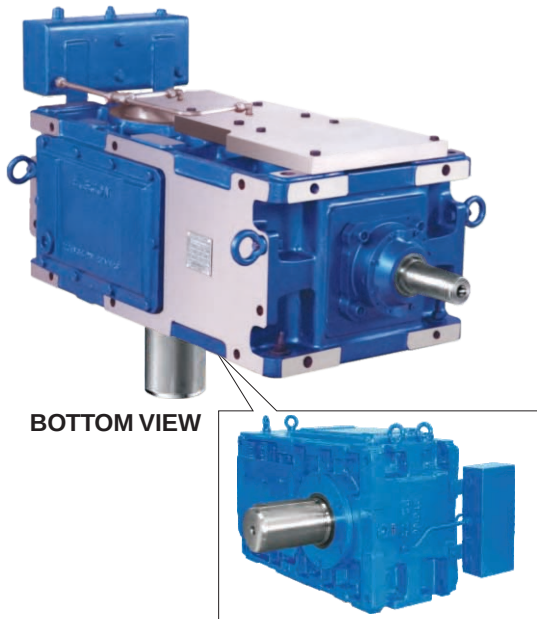
TECHNICAL DATA							
Press Tonnage	GEAR UNIT	Mechanical Power Rating (kW)		Mechanical Torque Rating (kNm)	Exact Ratio	Speed (RPM)	
		@n1=1000 RPM	@n1=750 RPM	@n1=1000 & 750 RPM		n1/n2	n1 /n2
P15	SCN 315 / SO POD	90	68	48	55.309	1000/18.08	750 / 13.5
P15	SCN 315 / SO POD	60	45	45	78.236	1000/12.78	750/9.58
P20	SCN 355 / SO POD	143	107	75	55.008	1000/18.17	750/13.63
P20	SCN 355 / SO POD	97	73	71	76.536	1000/13.06	750/ 9.79

GEAR UNIT	HOUSING DIMENSIONS (mm)													
	A	B	C	E	F	h	J	K	M	N	O	P	T	S
SCN 315/SO POD	628	969	325	396	330	310	1095	390	226	80	28	245	708	65
SCN 355/SO POD	715	1002	370	460	378	350	1227	468	251	70	35	300	833	65

GEAR UNIT	INPUT SHAFT					OUTPUT SHAFT					Wt. kgs	Oil Qty. Ltrs.
	Ød	l	d1	l1	b1	D	L	D2	L1	B2		
SCN 315/SO POD	55 m6	95	49	85	16 P9	150 m6	200	138	180	36 P9	815	40
SCN 355/SO POD	65 m6	140	58	125	18 P9	170 m6	240	157	220	40 P9	1117	73

Digester Drive (Right Angel Gear) with Oil Expansion Tank.

HELICAL GEARBOX



Technical Data

Digester Volume	Gear Unit	Mech. Power Rating	Mech. Torque Rating	Ratio	Speed (RPM)
		@N1=1500 RPM	@N1=1500 RPM		N1 / N2
P15	PLC 22-U3	41 KW	17 kNM	56/63	1500 / 26.7 / 23.8
P15 / P20	PLC 25-U3	61 KW	25 kNM	56/63	1500 / 26.7 / 23.8
P25	PLC 31-U3	109 KW	44 kNM	56/63	1500 / 26.7 / 23.8

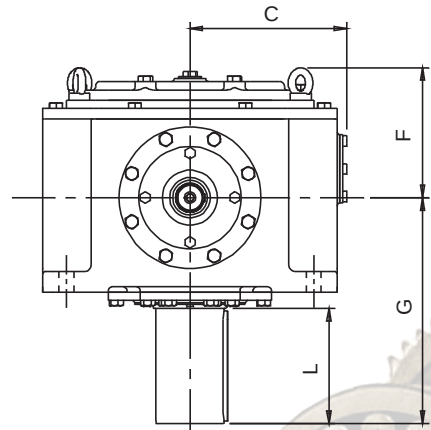
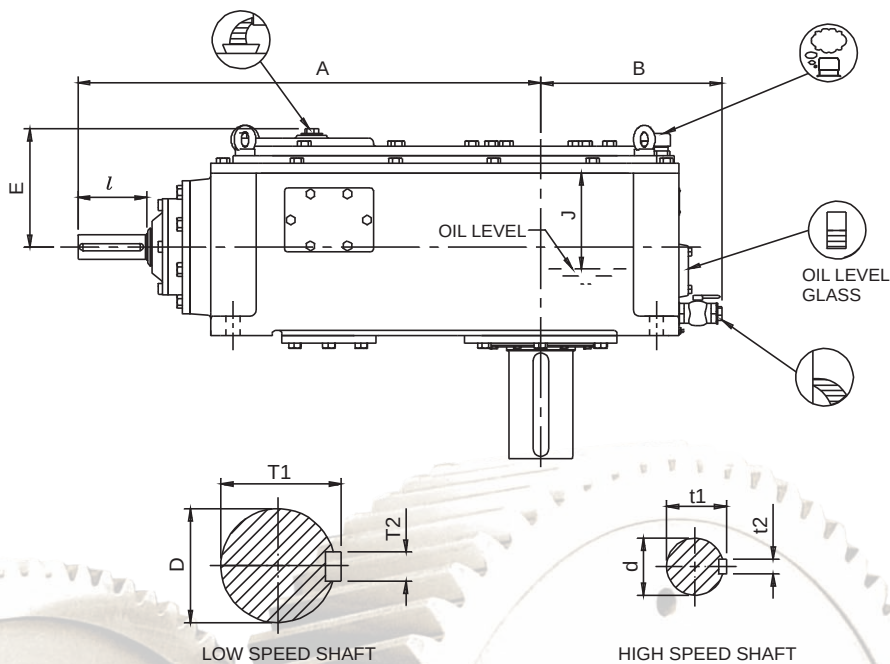
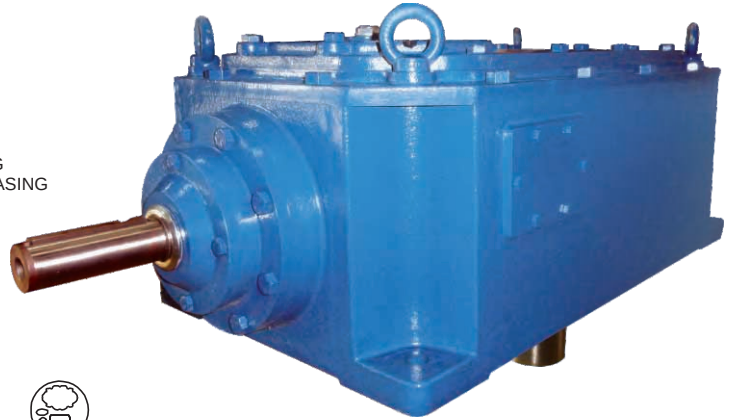
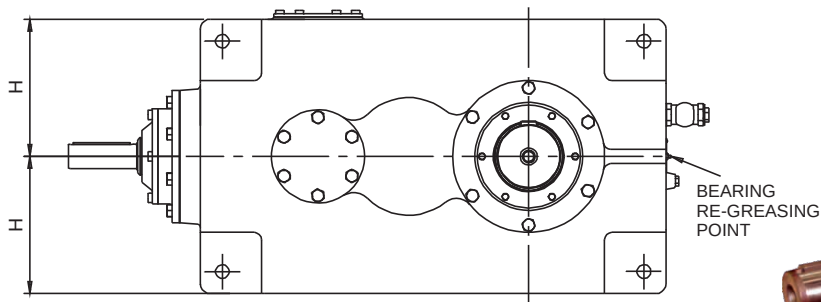
Gear Unit

Housing Dimensions (mm)

	$b6$	$c6$	$e5$	$e6$	$f6$	g	$g6$	h	$n1$	$n6$	o	p	$p6$	d	$w1u$	$h2$	wc	$h1$
PLC 22-U3	189	51	600	200	426	580	180	235	826	215	190	513	426	26	123	816	108	232
PLC 25-U3	189	51	658	256	486	638	236	265	940	271	220	573	426	26	123	861	108	232
PLC 31-U3	220	58	798	307	578	773	282	315	1137	325	262	680	490	33	135	770	108	232

Gear Unit	Input Shaft						Output Shaft					Wt. Kg.	Oil Lt.
	$d1$	$l1$	$b1$	$k1$	$m1$	$x1$	$d2$	$L2$	$B2$	$k2$	$m2$		
PLC 22-U3	50	120	14	823	703	225	130	190	32	405	215	470	48
PLC 25-U3	50	120	14	881	761	225	145	230	36	450	220	605	52
PLC 31-U3	60	145	18	1054	909	225	175	290	42	540	250	1075	60

Digester Drive (Right Angel Gear) without Oil Expansion Tank

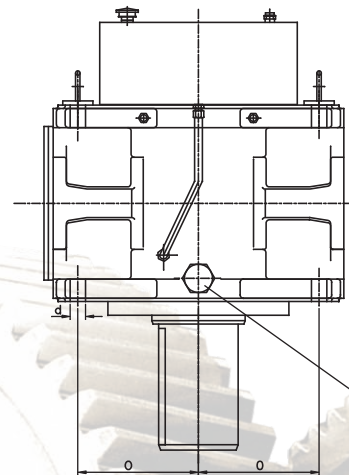
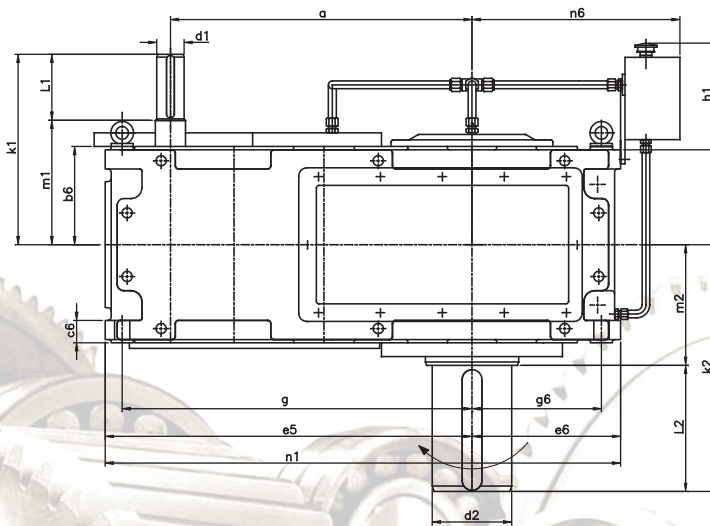
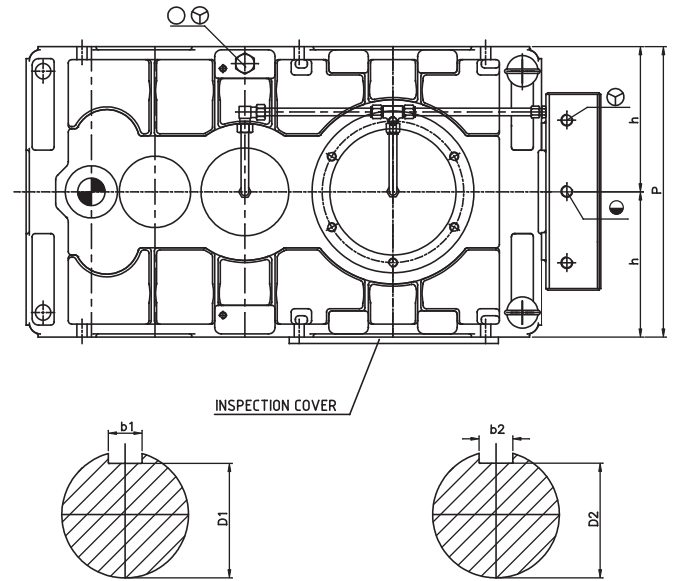
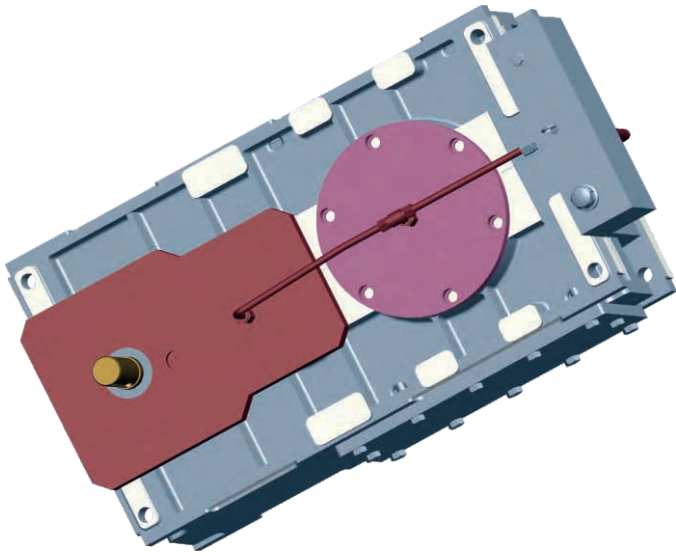


Digester	Gear Unit	Mech. Power Rating @ N1 = 1450 RPM	Mech. Torque Rating @ N1 = 1450 RPM	Exact Ratio	Speed(RPM)	Weight	Oil
					N1/N2	Kg	Lt.
D15	G143056.D	41.6 kW	13.9 kNm	52.91	1450/27.41	375	19
D20	G163056.D	72 kW	25 kNm	56.136	1450/25.83	670	45

	Housing dimensions							
Model	A	B	C	E	F	G	H	J
G14	720	288.5	219	229	236	405	200	150
G16	940	368	298	240	247	430	280	195

	Input Shaft				Output Shaft				Wt. Kg	Oil Ltrs.
Model	d	l	t1	t2	D	L	T1	T2		
G14	38	100	41	10	110	215	116	28	365	19
G16	50	140	53.5	14	130	220	137	32	670	45

Digester Drive (Parallel Shaft Gear) with Oil Expansion Tank



Technical Data

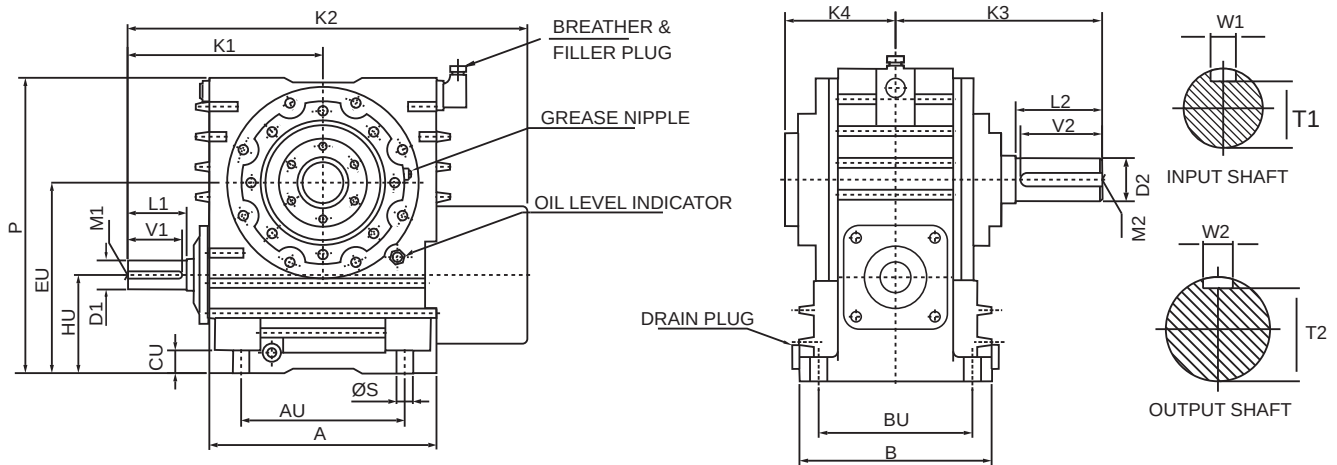
Volume Digester	Gear Unit	Mechanical Power Rating	Mechanical Torque Rating	Ratio	Speed(RPM)
		n1=1500 rpm	n1=1500 rpm		n1/n2
3000 L	PD 22	41 KW	17 KNM	56/63	1500 / 26.7 / 23.8
3500/5000L	PD25	61 KW	25 KNM	56/63	1500 / 26.7 / 23.8
5000 +L	PD 31	107 KW	48 KNM	56/63	1500 / 26.7 / 23.8

HOUSING DIMENSIONS

GEAR UNIT	a	b6	c6	Ø d H9	e5	e6	g	g6	h	h1	n1	n6	o	p
PD-22	492	179	41	26	611	215	580	180	235	210	826	325	190	470
PD-25	550	179	41	26	669	271	638	236	265	210	940	380	220	530
PD-31	659	210	48	33	812	325	773	282	315	210	1137	434	262	630

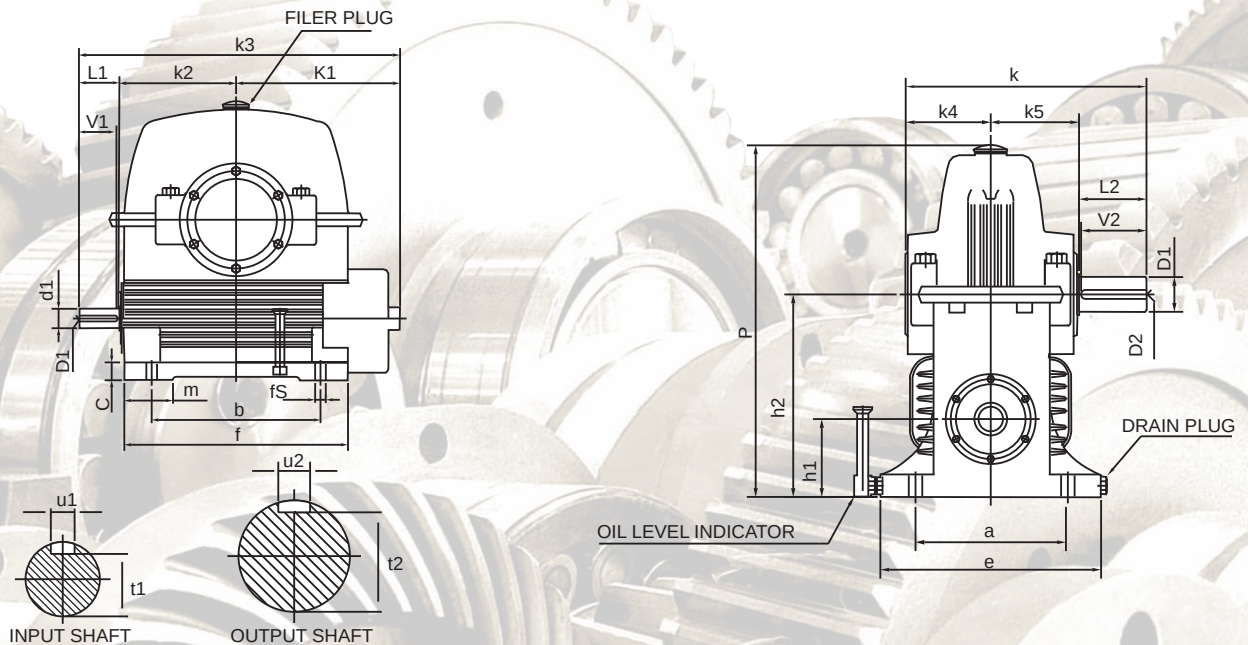
GEAR UNIT	INPUT SHAFT						OUTPUT SHAFT						Wt.	Oil
	Ø d1	L1	b1	k1	m1	D1	Ø d2	L2	b2	k2	m2	D2	Kg.	Lt.
PD-22	40	120	12	347	227	35	130	190	32	405	215	119	450	48
PD-25	40	120	12	347	227	35	145	230	36	450	220	133	585	52
PD-31	50	120	14	362	242	44.5	175	290	45	540	250	160	1025	60

SNU-U 4 to 10.5 SNU



SIZE	A	AU	B	BU	CU	fS	HU	EU	P	D1	L1	V1	M1	T1	W1	K1	K2	D2	L2	V2	M2	T2	W2	K3	K4
4 SNU-U	250	180	200	160	25	18	108	209.6	325	32	65	60	M12	27	10	215	440	45	90	85	M16	39.5	14	215	115
5 SNU-U	300	220	252	200	30	18	118	245	385	35	70	65	M12	30	10	242	492	50	100	95	M16	44.5	14	235	130
6 SNU-U	354	266	302	241	32	23	127	279.4	450	38	75	70	M12	33	10	279	580	58	114	111	M20	52	16	274	155
7 SNU-U	400	306	340	265	36	23	146	323.8	524	40	82	79	M16	35	12	311	656	65	130	127	M20	58	18	287	160
8 SNU-U	440	343	340	265	40	27	146	349.2	574	45	88	85	M16	39.5	14	342	710	70	140	137	M20	62.5	20	312	175
9 SNU-U	490	390	344	282	40	27	154	382.6	635	50	95	92	M16	44.5	14	375	776	75	145	140	M20	67.5	20	325	180
10.5 SNU-U	590	432	430	330	50	33	172	438.7	720	60	115	110	M20	53	18	450	925	80	150	147	M20	71	22	352	200

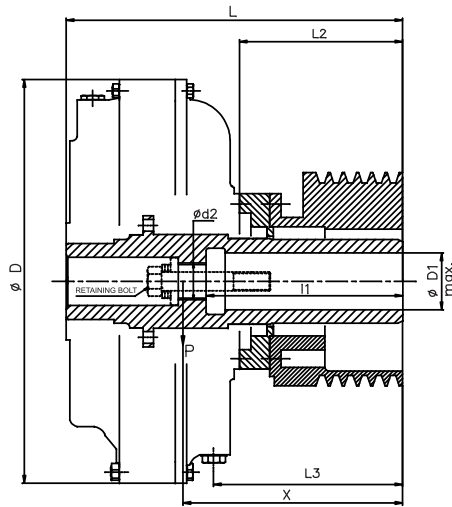
SFU



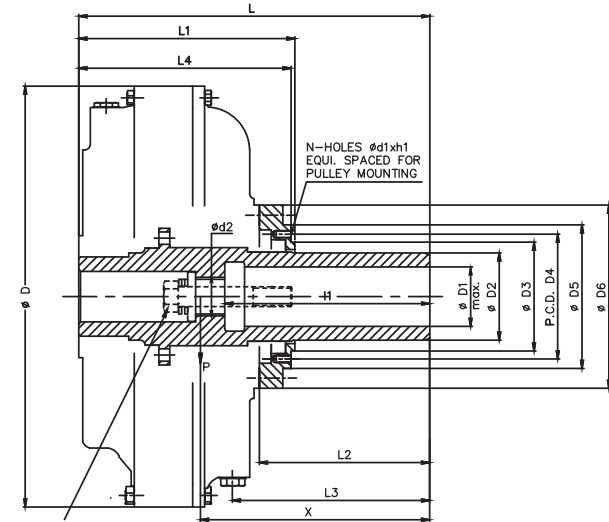
SIZE	GEARBOX MOUNTING DETAIL							CLEARANCE DIMENSIONS									SHAFT END DETAILS											
	a	b	c	e	f	m	fS	h1	h2	k	k1	k2	k3	k4	k5	P	d1	L1	V1	t1	u1	D1	d2	L2	V2	t2	u2	D2
12 SFU	368	521	55	540	690	150	33	190.5	495.3	589	505	360	990	208	216	860	60	125	120	53	18	M20	85	165	160	76	22	M20
14 SFU	432	597	65	560	820	180	33	216	571.6	635	545	450	1135	215	220	970	80	140	135	71	22	M20	110	200	195	100	28	M24
17 SFU	508	762	75	600	920	170	33	254	685.8	825	650	520	1340	300	310	1185	85	170	160	78	22	M20	135	215	210	123	36	M30

HYDROKINETIC FLUID COUPLINGS

FLUID COUPLING : CD-POD (WITH PULLEY)



FLUID COUPLING : CD-POD (WITHOUT PULLEY)



RETAINING BOLT ASSEMBLY
(ELECON SCOPE OF SUPPLY)

Hydrokinetic fluid couplings

TRACTION TYPE MOUNTING : PH (V-BELT PULLEY)

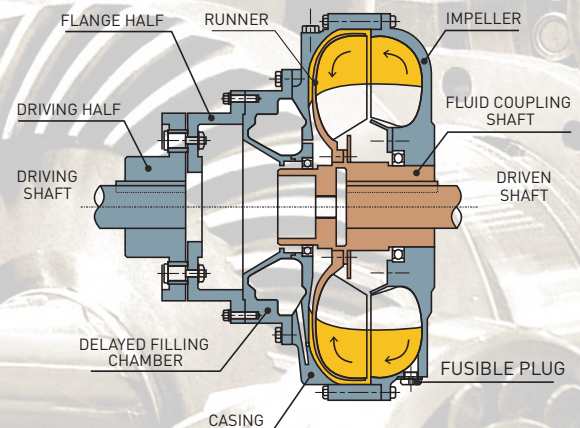
Sizes : 11 to 21 Type :CD-POD Mounting : • On motor shaft - (PHR) On machine shaft - (PHM)

FLUID COUPLING		SIZE	CD11	CD12	CD13	CD15	CD17	CD19	CD21
TYPE : CD-POD	J* (kgm ²)	INPUT	0.05	0.05	0.08	0.18	0.38	0.38	0.38
		OUTPUT	0.27	0.27	0.53	0.77	1.44	1.44	3.13
	WEIGHT P (dry and without pulley)	kg	30	30	41	56	80	80	140
	X	mm	200	200	232	271	315	315	338
	D		365	365	425	475	550	550	670
	D1		55	55	60	75	80	80	100
	D2		78	78	88	102	117	117	138
	D3		96	112	115	131	152	152	147
	D4		114	130	163	170	205	205	238
	D5		134	142	185	202	232	232	280
	D6		168	168					
	N		8	8	8	8	8	8	8
	d1		M8	M8	M10	M12	M12	M12	M12
	h1		12	13	17	18	18	18	21
	L		305	305	354	403	462	462	509
	L1		194	194	222	243	267	267	314
	L2		147	147	172	205	240	240	247
	L3		174	174	199	240	275	275	296
	L4		189	189	214	233	257	257	304
	l1		197	197	222	250	287	287	332
	d2		1" BSP	1" BSP	1" BSP	1-1/4 " BSP	1-1/4 " BSP	1-1/4 " BSP	1-1/4 " BSP

J* values of inertia for PHR.

For PHM, the values of inertia are reversed for primary and secondary parts.

SELECTION TABLE						
POWER TRANSMITTED IN kW						
Motor speed	(rpm)	750	960	1170	1450	1760
Fluid Coupling size	11	2.5	5.5	10	20	38
	12	2.5	5.5	10	20	38
	13	5	12	22	42	85
	15	10	22	40	80	150
	17	20	40	75	155	250
	19	20	40	75	155	250
	21	40	100	175	340	500



Owing to continuous development and improvement all dimensions and characteristics are subject to change without notice.

PRODUCTS IN THE RANGE

Serving an entire spectrum of mechanical drive applications from food, energy, mining and metal; to automotive, aerospace and marine propulsion, we are here to make a positive difference to supply of drive solutions.



Series M

In-Line helical geared motors & reducers

Unit Sizes: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 13, and 14

Input Power: Up to 90kW

Output Torque: Up to 11,000Nm

Gear Ratios: 3.6/1 to 58/1 in two stage, up to 16200/1 in combined form

Motor Sizes: IEC Frames from 63 to 280



Series C

Right angle drive helical worm geared motors & reducers

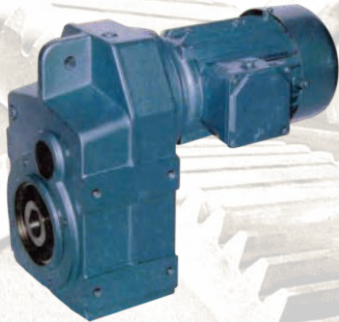
Unit Sizes: 03, 04, 05, 06, 07, 08, 09, and 10

Input Power: Up to 45kW

Output Torque: Up to 10,000Nm

Gear Ratios: 8.0/1 to 250/1 in two stage, up to 60000/1 in combined form

Motor Sizes: IEC Frames from 63 to 225



Series F

Parallel shaft helical geared motors & reducers

Unit Sizes: 02, 03, 04, 05, 06, 07, 08, 09, 10, 11 and 12

Input Power: Up to 110 kw

Output Torque: Up to 16,500 Nm

Gear Ratios: 5.0/1 to 100/1 in 2 stage, up to 5600/1 in combined form

Hollow shaft: 25 mm to 100 mm Motor Sizes: IEC Frames from 63 to 225

Motor Sizes: IEC Frames from 63 to 225



Series K

Right angle helical bevel geared motors & reducers

Unit Sizes: 03, 04, 05, 06, 07, 08, 09, 10 and 12

Input Power: Up to 90kW

Output Torque: Up to 12,300Nm

Gear Ratios: 8.0/1 to 160/1 in three stage, up to 35000/1 in combined form

Motor Sizes: IEC Frames from 63 to 280

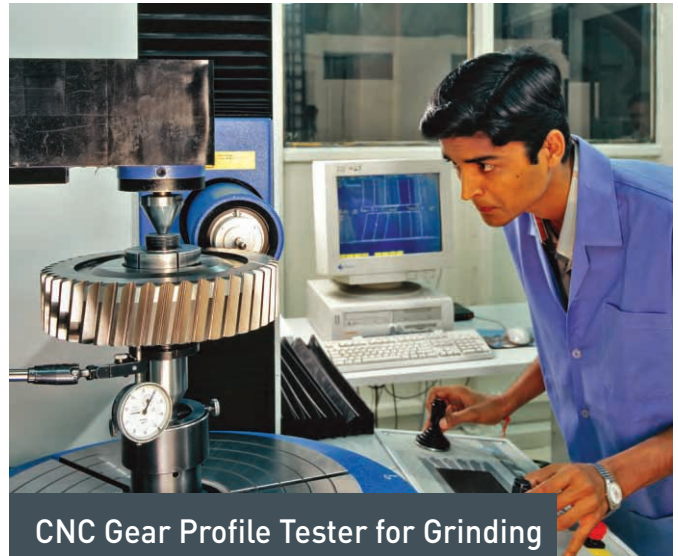


INSIDE VIEW OF SHANMUGHAM MEMORIAL CENTRE OF EXCEL

ELECON INFRASTRUCTURE



Elecon make Kernel Expeller gearboxes in operation in one of the kernel crushing plants in Malaysia



CNC Gear Profile Tester for Grinding

Winch/Capstan Drive



Type Gearbox : PLC 22
Ratio Gearbox : 63
Output Speed : 23 RPM (Input 1450 RPM)
Torque Rating Gearbox : 16500 NM
Motor Power : 18,5 KW - 1450 RPM
Safety Factor : 2.2
Available in single and double winch

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GEARING THE FUTURE

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