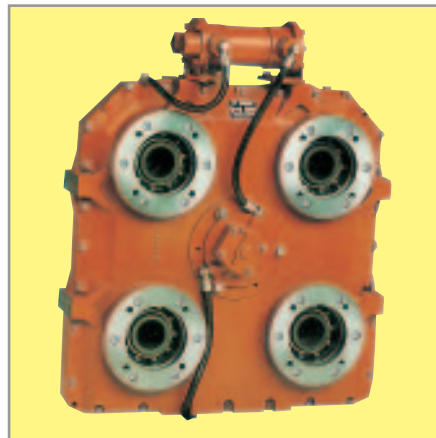
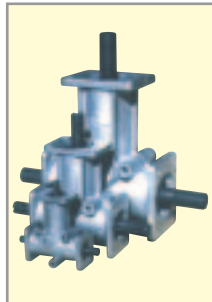
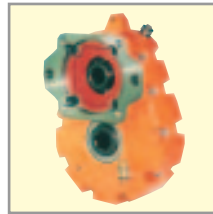
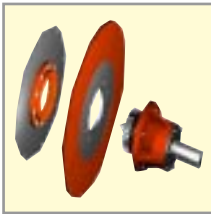
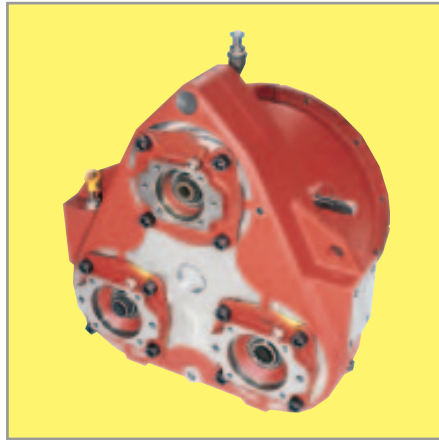
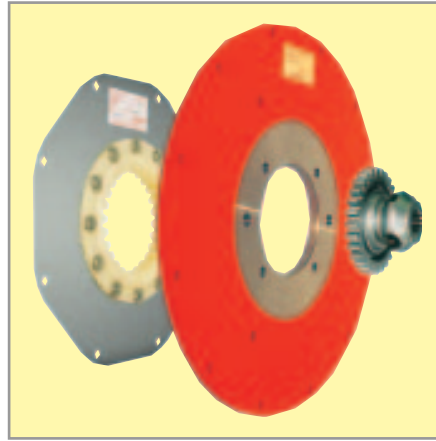
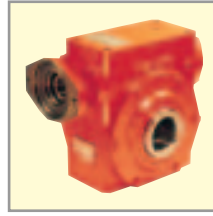


**DRIVES FOR FLUID POWER,
DIESEL AND MOBILE
EQUIPMENT**



POWER TRANSMISSION

CATALOGUE PT4

The Company And The Products

OEM Dynamics Pty Limited is a wholly Australian owned Company operating for over 25 years. The Company is a major supplier of fluid power related mechanical drives and accessories and industrial drives as well as being the industry leader in supply of oil heat transfer products for fluid power, gear and transmission oil cooling and compressor oil cooling through its DYNACOOOL Division. The Company exports products to over 20 countries. OEM Dynamics has Quality Assurance accreditation to the requirements of AS3902/ISO9002. The assessor is Lloyds Register, certificate no. MEQ 0942414

About This Catalogue

Our new catalogue PT4 supersedes the previous publications. The DYNAGEAR power transmission catalogues have become a popular reference in the fluid power, mobile/off road and diesel industry for hydraulic pump and diesel engine interfacing standards as well as a useful sourcing reference for drive components for these industries. The new PT4 publication continues in this tradition, but with a broader sourcing selection for general mobile/off road applications by inclusion of some new products and greater detail on existing products. With the exception of those items requiring assembly to customer specifications, most catalogue products are stock lines and can usually be shipped immediately.

The Products

DYNAGEAR

These products are Australian made and produced at our factory in Ballina NSW. They include a wide range of splined accessories, couplings, diesel drives, agricultural gearboxes, driveline components and overhung load adaptors.

FLEXILOCK

Australian designed and made, gear type polymer element shaft couplings for fluid power applications and direct hydraulic pump drive kits for diesel engines.

CLAMPLOCK

Australian designed and made, spline locking mechanisms which are incorporated in our gear type couplings, splined universal joint yokes and splined driveline companion flanges.

HUB CITY

The Hub City line is of US origin. Some of these products are assembled in Australia under licence they include a range of hydraulic motor driven worm reduction gearboxes, right angle bevel gearboxes and agricultural accessories.

DURST

Another of the Regal-Beloit US based companies which manufacture a range of high quality gear drives. OEM Dynamics assemble to order, from our Australian inventory, the new improved range of Helidraulic/Terrell hydraulic pump drive gearboxes for diesel engines.

TECHNODRIVE

We represent this well respected transmission manufacturer in Australia and South East Asia. The products include their well known hydraulic pump drive gearboxes, marine transmissions, PTO clutches and diesel engine speed reducers.

DYNACOOOL

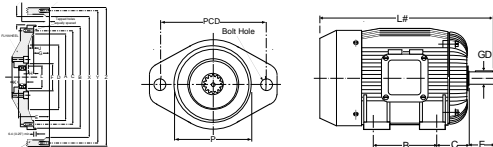
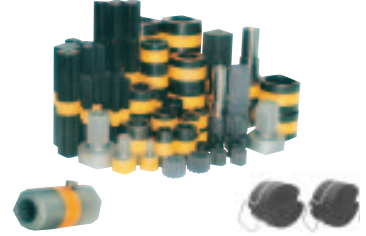

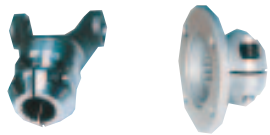
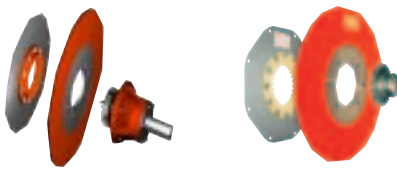
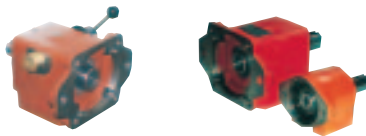

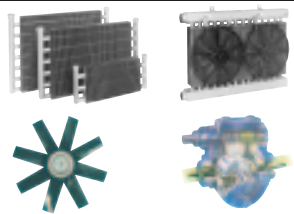
Dynacool division is the largest supplier of air cooled heat exchangers for fluid power service in Australia. We have provided in this catalogue some selections of our range of air cooled mobile oil coolers. For full details on our heat transfer products please request our catalogues DYNACOOOL 2000 DC10 for air cooled oil coolers and accessories, DC118 for shell and tube coolers and DC160 for plate type coolers.

AFTERMARKET SERVICES

This Division provides contract manufacturing facilities for aftermarket parts such as tractor and vehicle drivetrain components, shafts for pumps and complex 4 axis machined, drilled and milled items.

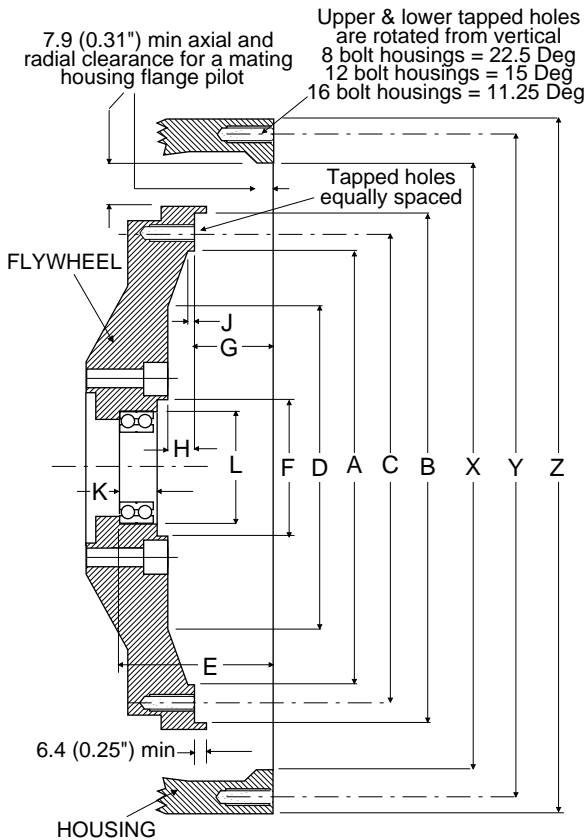
The Service

OEM Dynamics prides itself on the ability to provide excellent customer service and rapid delivery of product. Our application engineers are highly experienced in providing technical advice in selection and the application of products. They have extensive training in mechanical interfacing, including hydraulic pump and motor attachments, spline identification, diesel engine housing and flywheel interfacing and the application of mechanical drives on mobile equipment in off road environments. The company maintains extensive inventory and customers can usually expect same day despatch of most items.

PAGE	STANDARDS AND FORMULA	
4	Diesel engine flywheel and engine housing industry standards.	
4	Hydraulic pump & motor mount flange & shaft industry standards	
5	Electric motors 415V AC squirrel cage design TEFC to IEC standards	
5	Conversions and useful formula	
SPLINED HUBS, COUPLINGS AND SHAFTS		
6	Precision splined hubs	
7	Splined couplings	
8	Standard splined shafting	
8	Splined floating nib shafts	
9	Splined stubwelds for SAE hydraulic applications	
9	P.T.O. pump shaft adaptors - water pumps or hydraulic pumps	
9	Stroke control segments for hydraulic cylinders	
10	Splined bushes, slip sleeves, adaptors for hydraulic pump and motor drives	
ROUND BORE HUBS AND COUPLINGS		
11	Round bore weld-in hubs	
11	Round bore muff couplings	
FLEXIBLE COUPLINGS AND REPLACEMENT ELEMENTS		
12	Flexible couplings for hydraulic pumps & general use	
14	Flexible mini shaft to shaft couplings	
15	A / HAL type coupling replacement elements	
SPLINED YOKES AND COMPANION FLANGES		
16	Splined clamplock type yokes	
16	Round bore keyed shaft companion flanges	
17	Splined clamplock type universal joint companion flanges	
17	Matching yokes	
DRIVE KITS FOR DIESEL ENGINES		
18	Hydraulic pump drive kits for diesel engines	
20	Flexilock live P.T.O. drive kits for diesel engines	
OVERHUNG LOAD ADAPTORS AND CLUTCHES		
21	LDA Overhung load adaptors for hydraulic motors	
22	HDC Overhung load adaptors for hydraulic motors	
23	Model HH dog clutch for hydraulic pumps and motors	
PUMP DRIVES, WORM REDUCERS AND "T" GEARBOXES		
24	Model T33 hydraulic pump drives for agricultural tractor P.T.O.'s	
25	Model T33l hydraulic pump drives for agricultural implement mounting	
26	Durst helidraulic pump drives	
28	AM series hydraulic pump drive gearboxes - diesel or independent input	
30	Bevel Gear Drives	
33	Model 390 speed changer	
33	T Boxes	
ACCESSORY PRODUCTS		
34	Cooling elements for add-on or replacement round tube mobile - series DH	
35	Cooling elements for add-on or replacement heavy duty mobile with fan - series DF	
36	Axial fans	
37	Low voltage replacement fans	
38	Series 443 carousel filter (patent pending)	
38	"Donut" engine lube oil cooler - water cooled	
38	High viscosity oil pumps for lube oil applications	

DIESEL ENGINE FLYWHEEL AND ENGINE HOUSING INDUSTRY STANDARDS.

EXTRACTS FROM SAE J620D FOR ENGINE FLYWHEELS AND SAE J617C FOR ENGINE FLYWHEEL HOUSINGS
 Flywheels to J620D are in common use on diesel engines supplied for industrial and marine applications. Engines supplied for the truck market are usually fitted with automotive type flywheels which do not conform to standard J620D. Also some engines from Europe and Japan have variations away from standard such as metric threads in flywheel or housing or non standard machining.



The appropriate standards list tolerances for machined surfaces, threads bore eccentricity and face deviation. Should any of this detail be required please consult our sales staff for a copy of the complete SAE standard. Flywheel shown with pilot bearing installed for reference only. Pilot bearing is required only when using over centre clutches or torque converters. If fitting a flywheel drive plate for hydraulic pump drives, the bearing should be removed.

Flywheel No.	A		B		C		D	
	mm	inch	mm	inch	mm	inch	mm	inch
6 1/2	184.2	7.25	215.90	8.500	200.02	7.875	127.0	5.00
7 1/2	206.2	8.12	241.30	9.500	222.25	8.750	—	—
8	225.6	8.88	263.52	10.375	244.48	9.625	—	—
10	276.4	10.88	314.32	12.375	295.28	11.625	196.8	7.75
11 1/2	314.5	12.38	352.42	13.875	333.38	13.125	203.2	8.00
14	409.4	16.12	466.72	18.375	438.15	17.250	222.2	8.75
16	460.2	18.12	517.52	20.375	488.95	19.250	254.0	10.00

Flywheel No.	E		F		G		H	
	mm	inch	mm	inch	mm	inch	mm	inch
6 1/2	71.4	2.81	63.5	2.50	30.2	1.19	12.7	0.50
7 1/2	71.4	2.81	63.5	2.50	30.2	1.19	12.7	0.50
8	100.1	3.94	76.2	3.00	62.0	2.44	12.7	0.50
10	100.1	3.94	76.2	3.00	53.8	2.12	15.7	0.62
11 1/2	100.1	3.94	—	—	39.6	1.56	28.4	1.12
14	100.1	3.94	101.6	4.00	25.4	1.00	28.4	1.12
16	100.1	3.94	104.6	4.12	15.7	0.62	28.4	1.12

Flywheel No.	J		K		L		Tapped holes	
	mm	inch	mm	inch	mm	inch	No	Size
6 1/2	9.7	0.38	17.5	0.69	52.0	2.047	6	5/16"-18
7 1/2	12.7	0.50	17.5	0.69	52.0	2.047	8	5/16"-18
8	12.7	0.50	19.0	0.75	62.0	2.441	6	3/8"-16
10	12.7	0.50	28.4	1.12	72.0	2.834	8	3/8"-16
11 1/2	22.4	0.88	31.8	1.25	72.0	2.834	8	3/8"-16
14	22.4	0.88	38.1	1.50	80.0	3.149	8	1/2"-13
16	22.4	0.88	44.4	1.75	100.0	3.937	8	1/2"-13

Housing SAE-No.	X		Y		Z		Tapped holes	
	mm	inch	mm	inch	mm	inch	No	Size
6	266.70	10.500	285.75	11.250	307.8	12.12	8	3/8"-16
5	314.32	12.375	333.38	13.125	355.6	14.00	8	3/8"-16
4	361.95	14.250	381.00	15.000	403.4	15.88	12	3/8"-16
3	409.58	16.125	428.62	16.875	450.8	17.75	12	3/8"-16
2	447.68	17.625	466.72	18.375	489.0	19.25	12	3/8"-16
1	511.18	20.125	530.22	20.875	552.4	21.75	12	7/16"-14
1/2	584.20	23.000	619.12	24.375	647.7	25.50	12	1/2"-13

NO RESPONSIBILITY IS ACCEPTED FOR OMISSIONS VARIATIONS OR ERRORS

HYDRAULIC PUMP & MOTOR MOUNT FLANGE & SHAFT INDUSTRY STANDARDS

EXTRACTS FROM SAE J744C ANSI STANDARD FOR FLUID POWER PUMPS AND MOTORS

The SAE standard J744C was originally developed for off road vehicle use in USA. Not all pumps and motors are built to this standard.

STRAIGHT SHAFT TYPES

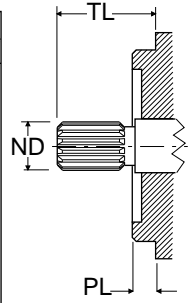
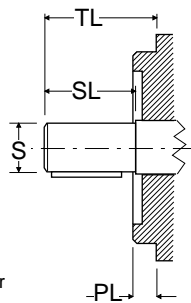
S	Torque in-lbs	HP at 1000	SL#	TL#	Key Width	OEM Code
0.500"	260	4.25	0.750"	1.062"	0.125"	78
0.625"	517	8.25	0.937"	1.250"	0.156"	12
0.750"	1,129	17.9	0.937"	1.250"	0.187"	13
0.875"	1,852	29.3	1.312"	1.625"	0.250"	14
1.000"	2,987	47.5	1.500"	1.812"	0.250"	15
1.250"	5,677	90	1.875"	2.187"	0.312"	24
1.500"	10,777	171	2.125"	2.437"	0.375"	60
1.750"	15,057	239	2.625"	2.937"	0.437"	61

#Lengths shown are for the common short shaft types for long shaft series see Standard SAE J744C. HP at 1000 RPM. Torque and HP requirements noted are typical (based on shaft St of 25000 PSI) and should be considered as a guide only.

30 Deg INVOLUTE SPLINE TYPES

Spline Details	Torque in-lbs	HP at 1000	ND	TL	SAE Code	OEM Code*
9T 20/40 DP	260	4.25	1/2"	1.062"	AA	91
9T 16/32 DP	517	8.25	5/8"	1.250"	AA	01
11T 16/32 DP	1,129	17.9	3/4"	1.250"	AH	02
13T 16/32 DP	1,852	29.3	7/8"	1.625"	BB	03
15T 16/32 DP	2,987	47.5	1"	1.812"	BB	04
14T 12/24 DP	5,677	90	1 1/4"	2.187"	C	06
21T 16/32 DP	6,839	108	1 3/8"	2.187"	CS	07
17T 12/24 DP	10,777	171	1 1/2"	2.437"	CC	32
13T 8/16 DP	15,057	239	1 3/4"	2.937"	D	08
13T 8/16 DP	15,057	239	1 3/4"	2.937"	E	08
15T 8/16 DP	24,245	285	2"	3.437"	F	37

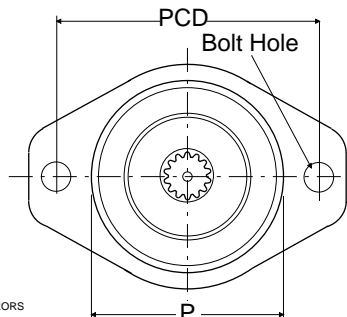
HP at 1000 RPM. Torque and HP requirements noted are typical (based on shaft St of 25000 PSI) and should be considered as a guide only. Torsional stress is calculated at spline undercut.



* OEM Code. Unique code for ID of shaft or bore sizes. Appears as last two numbers in all Part Numbers for Splined Hubs, Splined Couplings, Splined Shafts, Flexilock Hubs, Clamplock Components, Over Hung Load Adaptors or Gearboxes shown in this catalogue.

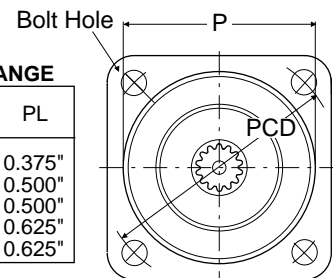
TWO BOLT MOUNTING FLANGE

SAE Code	Bolt PCD	Bolt Hole	P	PL
AA	3.250"	0.406"	2.00"	0.250"
A	4.187"	0.437"	3.25"	0.250"
B	5.750"	0.562"	4.00"	0.375"
C	7.125"	0.687"	5.00"	0.500"
D	9.000"	0.812"	6.00"	0.500"
E	12.500"	1.062"	6.50"	0.625"
F	13.781"	1.062"	7.00"	0.625"



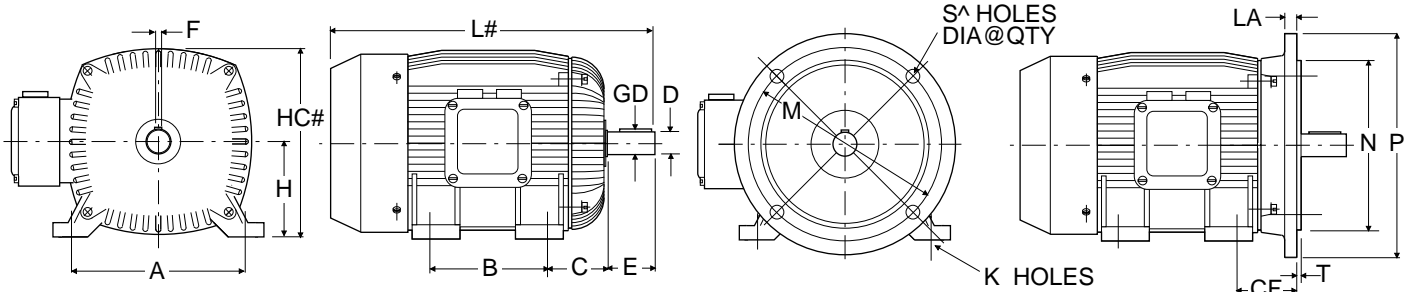
FOUR BOLT MOUNTING FLANGE

SAE Code	PCD	Bolt Hole	P	PL
B	5.000"	0.562"	4.00"	0.375"
C	6.375"	0.562"	5.00"	0.500"
D	9.000"	0.812"	6.00"	0.500"
E	12.500"	0.812"	6.50"	0.625"
F	13.781"	1.062"	7.00"	0.625"



NO RESPONSIBILITY IS ACCEPTED FOR OMISSIONS VARIATIONS OR ERRORS

ELECTRIC MOTORS 415V AC SQUIRREL CAGE DESIGN TEFC TO IEC STANDARDS



Dimensions so marked are subject to variation depending on the brand of motor being used and may not be shown.
S^A Frames 63 through 200L have 4 holes on 45 deg. The remainder 8 holes on 22 deg 30 min. Relationship of power output verses frame may vary with manufacturer.

FRAME	DIMENSIONS (mm)																POWER RANGE kW @ MOTOR RPM				
	A	B	C	CF	D	E	F	GD	H	HC#	K	LA	M	N	P	S ^A	T	3000	1500	1000	750
63	100	80	40	40	11	23	4	12.5	63	124	7	6	115	95	140	10	3	0.12-0.25	0.12-0.18		
71	112	90	45	45	14	30	5	16	71	140	7	9	130	110	160	10	3.5	0.37-0.55	0.25-0.37	0.18	0.12
80	125	100	50	50	19	40	6	21.5	80	158	10	10	165	130	200	12	3.5	0.75-1.10	0.55-0.75	0.37-0.55	0.18
90S	140	100	56	56	24	50	8	27	90	178	10	10	165	130	200	12	3.5	1.50	1.10	0.75	0.37
90L	140	125	56	56	24	50	8	27	90	178	10	10	165	130	200	12	3.5	2.20	1.50	1.10	0.55
100L	160	140	63	63	28	60	8	31	100	198	12	11	215	180	250	15	4	3.0	2.2-3.0	1.5	0.75-1.1
112M	190	140	70	70	28	60	8	31	112	222	12	11	215	180	250	15	4	4.0	4.0	2.2	1.5
132S	216	140	89	89	38	80	10	41	132	260	12	12	265	230	300	15	4	5.5-7.5	5.5	3.0	2.2
132M	216	178	89	89	38	80	10	41	132	260	12	12	265	230	300	15	4	9.2	7.5	4.0-5.0	3.0
160M	254	210	108	108	42	110	12	45	160	314	15	18	300	250	350	19	5	11.0-16.0	9.2-11.0	7.5	4.0-5.5
160L	254	254	108	108	42	110	12	45	160	314	15	18	300	250	350	19	5	18.5	15.0	9.2-11.0	7.5
180M	279	241	121	121	48	110	14	51.5	180	354	15	18	300	250	350	19	5	22.0	18.5		9.2
180L	318	279	121	121	48	110	14	51.5	180	354	15	18	300	250	350	19	5	22.0	22.0	15.0	11.0
200M	318	267	133	133	55	110	16	59	200	392	19	18	350	300	400	19	5		22.0	15.0	11.0
200L	356	305	133	133	55	110	16	59	200	392	19	18	350	300	400	19	5	30.0-37.0	30.0	18.5-22.0	15.0
225S	356	286	149	149	55/60	110	16/18	#	225	455	19	18	400	350	450	19	5	45	37.0-45.0	30	18.5-22.0
225M	356	311	149	149	55/60	110	16/18	#	225	455	19	18	400	350	450	19	5	45	37.0-45.0	30	18.5-22.0
250S	406	311	168	168	60/70	140	18/20	#	250	480	24	18	500	450	550	19	5	55.0-75.0	55.0-75.0	37.0-45.0	30.0-37.0
250M	406	349	168	168	60/70	140	18/20	#	250	480	24	18	500	450	550	19	5	55.0-75.0	55.0-75.0	37.0-45.0	30.0-37.0

NO RESPONSIBILITY IS ACCEPTED FOR OMISSIONS VARIATIONS OR ERRORS

CONVERSIONS AND USEFUL FORMULA

CONVERSIONS TORQUE

- Nm x 0.7376 = lbf ft
- lbf ft x 1.356 = Nm
- lb in x 0.1130 = Nm
- kgm x 9.807 = Nm
- kgm x 7.232 = lbf ft

POWER

- kW x 1.341 = HP
- HP x 0.7457 = kW
- Met HP x 0.7355 = kW
- Ton of Rfg x 3.517 = kW

PRESSURE

- PSI x 0.0689 = Bar
- Bar x 14.5 = PSI
- inH₂O x 0.249 = kPa

VOLUME

- Gal (UK) x 4.546 = Litres
- Gal (US) x 3.785 = Litres
- Cu Ft x 28.32 = Litres

LENGTH

- Inch x 25.4 = mm
- Feet x 0.3048 = metre

AREA

- Sq Inch x 6.452 = Sq cm
- Sq Ft x 0.0929 = Sq mtr

VELOCITY

- Ft/s x 0.3048 = m/s
- mph x 1.609344 = km/h
- Knot UK x 1.853 = km/h

MASS

- Oz x 28.3495 = gram
- lb x 0.4536 = kg
- Ton UK x 1.016 = Tonne

POWER TORQUE AND SPEED RELATIONSHIPS US UNITS

$$T = \frac{HP \times 5252}{RPM} \quad HP = \frac{T \times RPM}{5252} \quad RPM = \frac{HP \times 5252}{T}$$

Where T = Torque Ft Lbs
 HP = Horsepower
 RPM = Revs Per Minute

POWER TORQUE AND SPEED RELATIONSHIPS ISO UNITS

$$T = \frac{kW \times 9549}{RPM} \quad kW = \frac{T \times RPM}{9549} \quad RPM = \frac{kW \times 9549}{T}$$

Where T = Torque Newton Metres
 kW = Kilowatts
 RPM = Revs Per Minute

HYDRAULIC (FLUID POWER) POWER US UNITS

$$HP = \frac{PSI \times US\ GPM}{1714} \quad PSI = \text{Lbs per Sq Inch Pressure}$$

US GPM = Gallons Per Minute US
 Above is theoretical power. Add inefficiency.

HYDRAULIC (FLUID POWER) POWER ISO UNITS

$$kW = \frac{Bar \times L/min}{600} \quad Bar = \text{Pressure Bar}$$

L/min = Litres Per Minute
 Above is theoretical power. Add inefficiency.

NO RESPONSIBILITY IS ACCEPTED FOR OMISSIONS VARIATIONS OR ERRORS



HYDRAULIC PUMP DRIVE KITS FOR DIESEL ENGINES

FLEXILOCK has torsional vibration control and spline locking security.

LARGEST RANGE AVAILABLE IN THE WORLD TODAY.

With over 300 combinations we offer by far the largest standard range of direct hydraulic pump drive kits for diesel engines in the world today. The application versatility of our system is unique, covering SAE & DIN configurations.

A COMPLETE ENGINEERED PRODUCT.

Using a **FLEXILOCK** kit permits the customer to make a reliable pre-engineered connection between the engine and hydraulic pump without the necessity of designing a special adaptation.

WIDE POWER RANGE, UP TO 300 HP.

63 Series with capacity to 47 HP (35 kW) at 2500 RPM.
101 Series with capacity to 142 HP (106 kW) at 2500 RPM.
127 Series with capacity to 209 HP (156 kW) at 2200 RPM & 195 Series with capacity to 300 HP (223 kW) at 2200 RPM.

WIDE RANGE OF ENGINE HOUSING ADAPTORS.

We have been manufacturing engine housing adaptors since 1977 and can provide a wide range of high quality adaptors from stock. Housing adaptors have UNC tapped holes for pump mounting.

LONG TROUBLE FREE LIFE.

Our special polymer flywheel driveplate elements are formulated for optimum elasticity at engine operating temperature and will continue to absorb engine torsional vibration over a very long life cycle. Unlike rubber drive connections, our elements do not harden and fret with continued engine heat exposure, but remain effective over long periods.

STEEL DRIVEPLATE.

Outer driveplate is steel with special polymer element riveted in place. The use of a steel drive plate eliminates dimensional instability often experienced with the full plastic style drives.

SUPERIOR SPLINE LOCKING SECURITY.

The CL and SL type **CLAMPLOCK** spline locking mechanisms in our all steel coupling hubs provide the highest level of spline locking security currently available from any source. Pump spline shaft wear or fretting is eliminated by simply tightening the screws provided. Material is high carbon steel not sintered metal as used by some competitors.

TABLE 1

ENGINE ADAPTOR INTERFACING AND PUMP COMPATIBILITY CHART

Series By Performance.	Engine Interfacing	EAI Codes	Pump Size	Stand Off Distance "T"
63 Series Code 90	SAE 5 x 6 1/2"	C	A,B	0.24"(6mm)
Torque - 135 Nm 34hp (25kW) @1800 RPM	SAE 5 x 7 1/2"	E	A,B	0.24"(6mm)
Torque - 100 ft.lbs. 38hp (28kW) @2000RPM	SAE 5 x 8"	G	A,B	0.24"(6mm)
M=2.5" (63mm)	SAE 4 x 6 1/2"	A	A,B	0.31"(8mm)
N=1.46" (37mm)	SAE 4 x 7 1/2"	H	A,B	0.31"(8mm)
	SAE 4 x 8"	J	A,B	0.31"(8mm)
101 Series Code 91	SAE 5 x 6 1/2"	D	B,C	1.57"(40mm*)
Torque - 406 Nm 102hp (76kW) @1800RPM	SAE 5 x 7 1/2"	F	B,C	1.57"(40mm*)
Torque - 300 ft.lbs. 114hp (85kW) @2000RPM	SAE 5 x 8"	G	B,C	0.24"(6mm)
M=4"(101.5)	SAE 5 x 8"	R #	B,C	0.24"(6mm)
N=2.54" (64.5mm)	SAE 4 x 7 1/2"	Z	B,C	1.57"(40mm*)
	SAE 4 x 8"	J	B,C	0.31"(8mm)
	SAE 4 x 10"	K	B,C	0.31"(8mm)
	SAE 3 x 10"	M	B,C	0.31"(8mm)
	SAE 3 x 11 1/2"	P	B,C	0.31"(8mm)
	SAE 2 x 11 1/2"	S	C,D	0.43"(12mm)
127 Series Code 92	SAE 4 x 10"	K	B,C	0.31"(8mm)
Torque - 678 Nm 152hp (113kW) @1600RPM	SAE 3 x 10"	M	B,C	0.31"(8mm)
Torque - 500 ft.lbs. 170hp (127kW) @1800RPM	SAE 3 x 11 1/2"	P	B,C	0.31"(8mm)
M=5" (126.7mm)	SAE 2 x 11 1/2"	S	C,D	0.43"(12mm)
N=2.54" (64.5mm)	SAE 1 x 11 1/2"	B	C,D,E	0.43"(12mm)
	SAE 1 x 14"	W	D,E,F	2"(51mm)
195 Series Code 95	SAE 3 x 11 1/2"	P	C,D	0.31"(8mm)
Torque - 969 Nm 217hp (162kW) @1600RPM	SAE 2 x 11 1/2"	S	C,D	0.43"(12mm)
Torque - 715 ft.lbs. 245hp (183kW) @1800RPM	SAE 1 x 11 1/2"	B	C,D,E	0.43"(12mm)
M=7.66" (194.5mm)	SAE 1 x 14"	W	D,E,F	2"(51mm)
N=2.54" (64.5mm)				

TABLE 2

PUMP SIZES & FLANGE INTERFACING

Size	"P"	Code
SAE A 2	3.25"	01
SAE B 2/4	4.00"	02
SAE C 2/4	5.00"	03
SAE D 4	6.00"	04
SAE E 4	6.50"	05
SAE F 4	7.00"	06
DIN Gp2	36.5mm	07
DIN Gp3	50.8mm	08
M100 4	100mm	09
M125 2/4	125mm	10
M140 4	140mm	11
M160 2/4	160mm	12
M180 4	180mm	13
M200 4	200mm	14

$$P(\text{HP}) = \frac{T(\text{ft lbs}) \times \text{RPM}}{5252}$$

$$P(\text{kW}) = \frac{T(\text{Nm}) \times \text{RPM}}{9549}$$

$$\text{lbf ft} = \text{Nm} \times 0.7376$$

$$\text{Nm} = \text{lbf ft} \times 1.356$$

* Spacer used on this model - see drawing next page

EAI Code 'R' used on Hatz Diesel engines where the "G" dimension is 23mm. Refer to PT112 for full details.

For Diesel engine flywheel and engine housing industry standards refer to page 4.

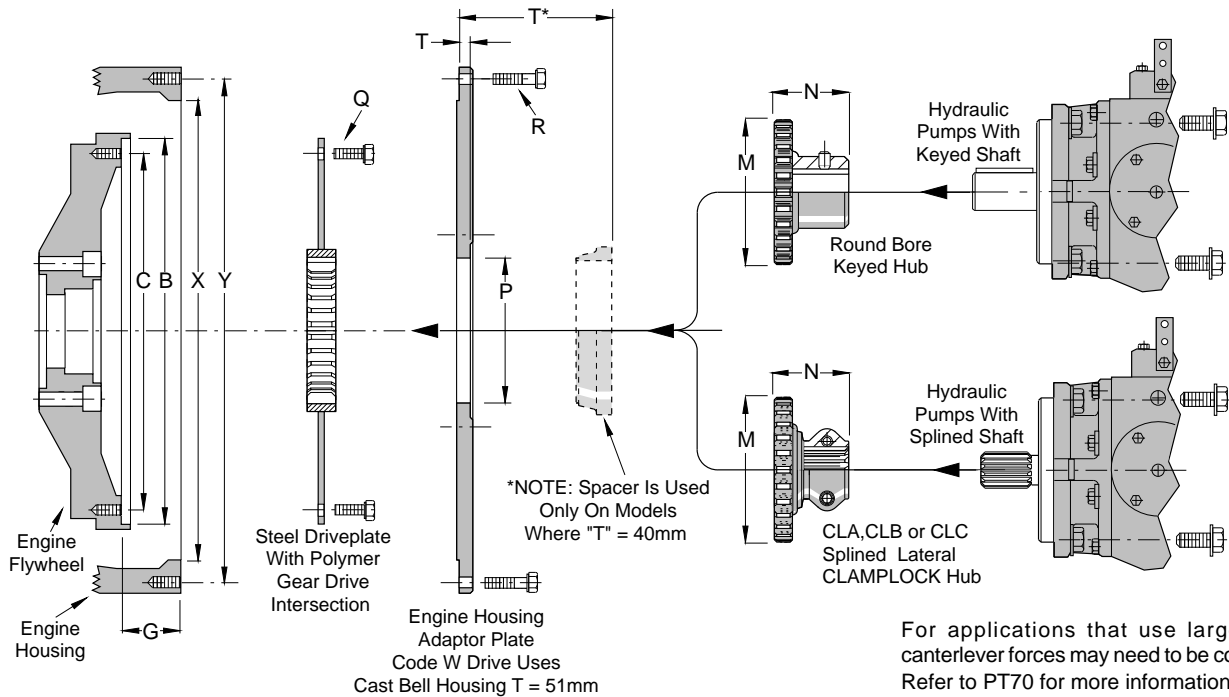
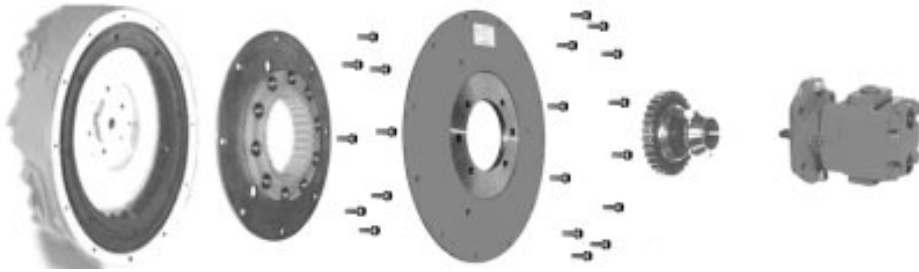


TABLE 3

SPLINED PUMP SHAFT OPTIONS				
No Of Teeth	Spline Type	Nominal Spline OD	Specifications of Spline	Shaft Code
9	SAE A	0.625"	16/32 INV CL5	01
11	SAE AH	0.750"	16/32 INV CL5	02
13	SAE B	0.875"	16/32 INV CL5	03
15	SAE BB	1.000"	16/32 INV CL5	04
18	DIN 5480	25mm	1.25 Module INV	20
14	DIN 5480	30mm	2 Module INV	10
14	SAE C	1.250"	12/24 INV CL5	06
21	SAE CS	1.375"	16/32 INV CL5	07
16	DIN 5480	35mm	2 Module INV	11
17	SAE CC	1.500"	12/24 INV CL5	32
23	IMP ANSI	1.500"	16/32 INV CL5	43
18	DIN 5480	40mm	2 Module INV	41
13	SAE D-E	1.750"	8/16 INV CL5	08
27	IMP ANSI	1.750"	16/32 INV CL5	09
21	DIN 5480	45mm	2 Module INV	42
24	DIN 5480	50mm	2 Module INV	45
15	SAE F	2.000"	8/16 INV CL5	37

ROUND BORE KEYED PUMP SHAFT OPTIONS

Bore	Keyway	Code	Bore	Keyway	Code
0.625"	0.156"	12	1.500"	0.375"	60
0.750"	0.187"	13	40mm	2mm	52
0.875"	0.187"*	14	1.750"	0.437"	61
1.000"	0.250"	15	45mm	14mm	54
1.250"	0.312"	24	50mm	14mm	56
35mm	10mm	50	55mm	16mm	57

* Also has 0.250" Keyway. Other sizes available contact sales

DIN 1 IN 8 TAPER

18mm	DIN 2	16	24mm	DIN 3	17
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FLYWHEEL IDENTIFICATION - SAEJ620D

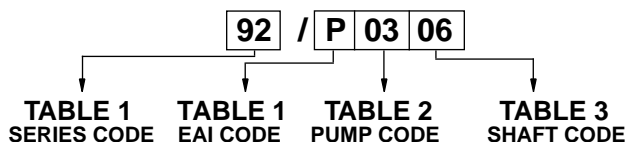
FW No	"C"	"B"	"G"	Bolts	"H"
6 1/2	7.875" (200.02)	8.500" (215.90)	1.187" (30.2)	6	5/16"
7 1/2	8.750" (222.25)	9.500" (241.30)	1.187" (30.2)	8	5/16"
8	9.625" (244.48)	10.375" (263.52)	2.441" (62.0)	6	3/8"
10	11.625" (295.28)	12.375" (314.32)	2.118" (53.8)	8	3/8"
11 1/2	13.125" (333.38)	13.875" (352.42)	1.559" (39.6)	8	3/8"
14	17.250" (438.15)	18.375" (466.72)	1.000" (25.4)	8	1/2"

ENGINE HOUSING IDENTIFICATION - SAE J607C

Hsg No	"X" (mm)	"Y" (mm)	Bolts	"R"
SAE 5	12.375" (314.32)	13.125" (333.38)	8	3/8"
SAE 4	14.250" (361.95)	15.000" (381.00)	12	3/8"
SAE 3	16.125" (409.58)	16.875" (428.62)	12	3/8"
SAE 2	17.625" (447.68)	18.375" (466.72)	12	3/8"
SAE 1	20.125" (511.18)	20.875" (530.22)	12	7/16"

ORDERING CODE (Complete Kit).

Bolt kits are supplied with UNC threads unless otherwise advised when ordered.



Example: 92/P0306 would be a 127 Series with Adaptor Plate to suit an SAE 3 Engine Housing and Driveplate to suit an 11 1/2" Flywheel. Adaptor Plate has a SAE C Pump mount and hub takes a 14 tooth Ø1.25" 12/24 DP shaft.

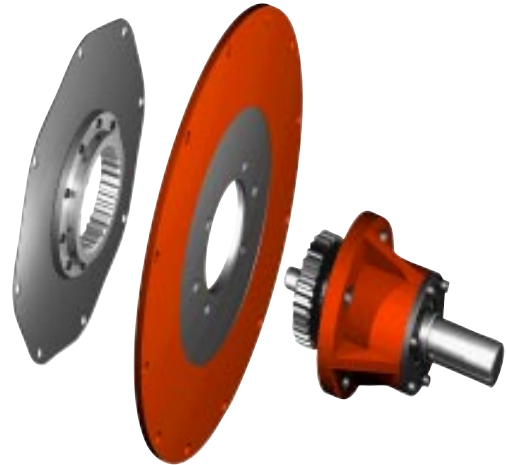
APPLICATIONS

Pulley drives, Chain drives, other applications where a male output shaft from a diesel engine is required.

FEATURES

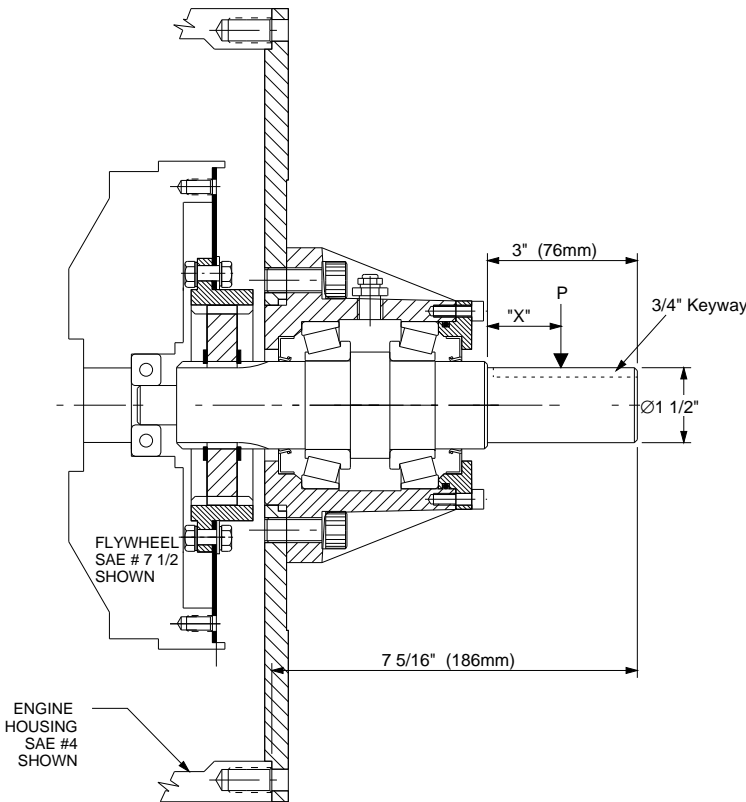
Taper roller bearings for high capacity and long life, spheroidal graphite cast iron housing. Flexilock drive for installation ease, reduces torsional vibration transmission and misalignment capacity. Protects engine bearings and crank from side load failures. Comes factory filled with ATF oil

Kit includes : - Flexilock flywheel driveplate, Flexilock engine housing adaptor plate, bearing supported stub shaft.



LPTO Ordering Information - Common Types

Warning - Do not use on water pumps with time clock shutdown



Overhung load calculation

$$P = \frac{12600 \times \text{HP}}{\text{RPM} \times d} \times K$$

where

P = load in pounds due to belt pull

HP = diesel engine power

RPM = speed

d = pulley pitch diameter inches

K = factor

1.5 for V-belts

2.5 for flat belts

$$P(\text{lbs}) \times 0.4536 = P(\text{kg})$$

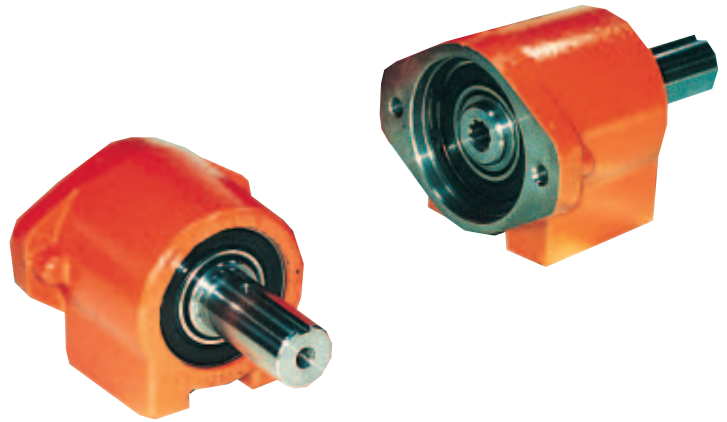
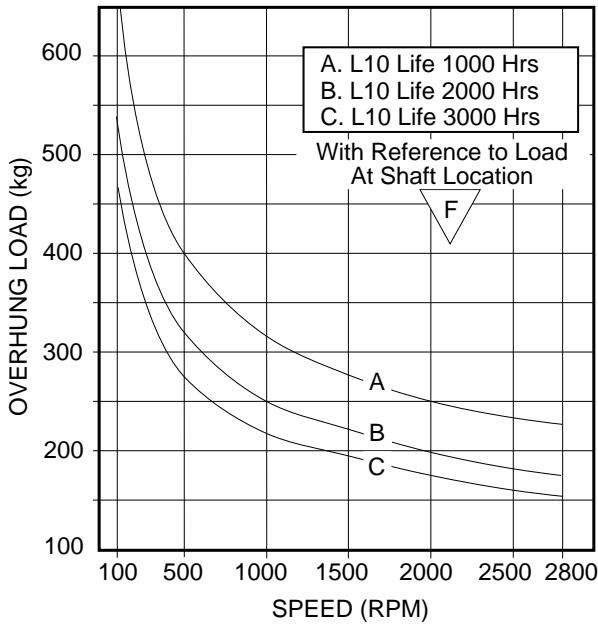
Allowable side pull loads P

RPM	Distance "X"	
	25mm	50mm
1000	379 kg	283 kg
2000	302 kg	270 kg
3000	265 kg	238 kg

Flexilock Series	Engine Housing	Engine Flywheel	Power Rating	Speed RPM	LPTO Part Number	Pilot Bearing Customer Supply
101	SAE 3	11 1/2	100 HP	2600	91/P03L603	6306-2RS
101	SAE 4	10	70 HP	2800	91/K03L603	6306-2RS
101	SAE 4	8	70 HP	2800	91/J03L603	6305-2RS
101	SAE 4	7 1/2	70 HP	2800	91/H03L603	6304-2RS
101	SAE 5	7 1/2	70 HP	3000	91/E03L603	6304-2RS
101	SAE 5	6 1/2	70 HP	3000	91/D03L603	6304-2RS

Above are standard combinations. Other combinations available.
Consult our sales office.

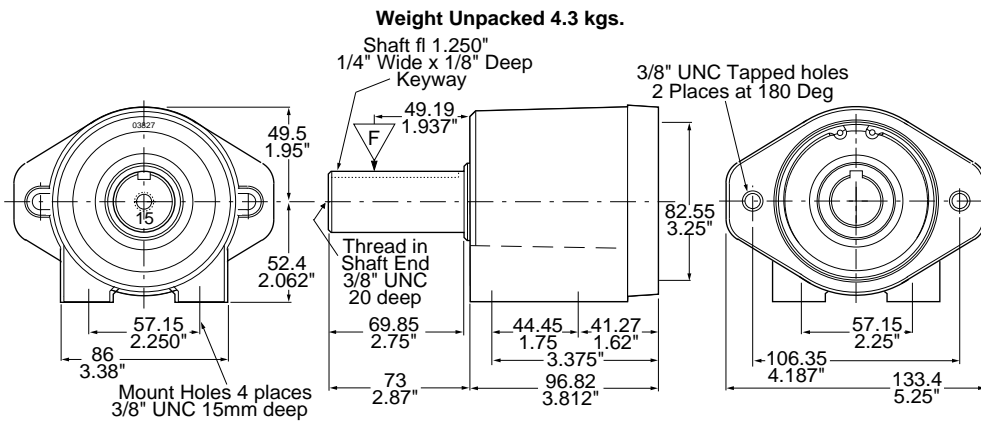
LDA OVERHUNG LOAD CAPACITY



MODEL LDA

This is a low cost model with a fixed SAE "A" motor adaptor and 6 shaft size options. Bearings are sealed Ball Bearing type greased for life. Shaft options include most of those required for high speed hydraulic motors. Also included is the 1" shaft option for Charlyn, Ross TRW and Danfoss Orbit motors and 25 mm shaft to suit the SAM HYDRAULIK BG...N orbit motor.

MODEL LDA Dimensions

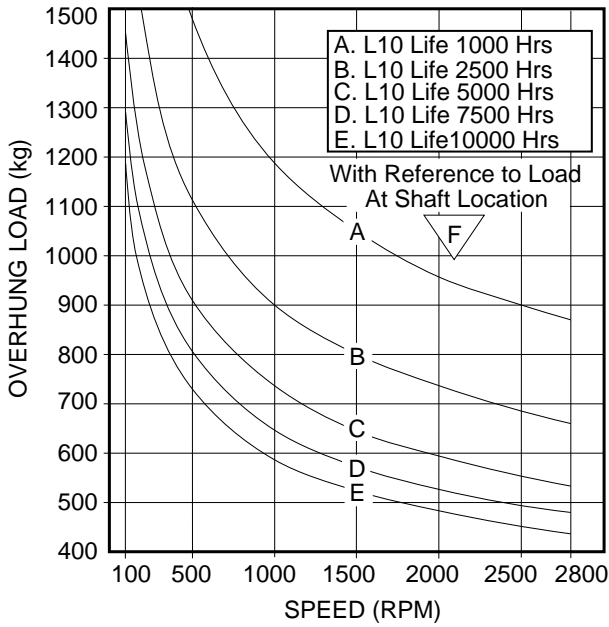


LDA Ordering information

Part Number	Hyd Motor Shaft Type	Sleeve P No.
64/125101 ^	Spline 9T 5/8" OD 16/32 DP	64/03/20001
64/125102 ^	Spline 11T 3/4" OD 16/32 DP	64/03/20002
64/125112 ^	Round 0.625" OD 0.156" Keyway	64/03/20012
64/125113 ^	Round 0.750" OD 0.187" Keyway	64/03/20013
64/125114	Round 0.875" OD 0.250" Keyway	
64/125115 *	Round 1.000" OD 0.25" Keyway	
64/125126 #	Round 25mm OD 8mm Keyway	

^ Basic model 64/125115 fitted with sleeve.
For SAM HYDRAULIK-BG...N with shaft type C25.
* Directly replaces model 03-35-00043.

HDC OVERHUNG LOAD CAPACITY

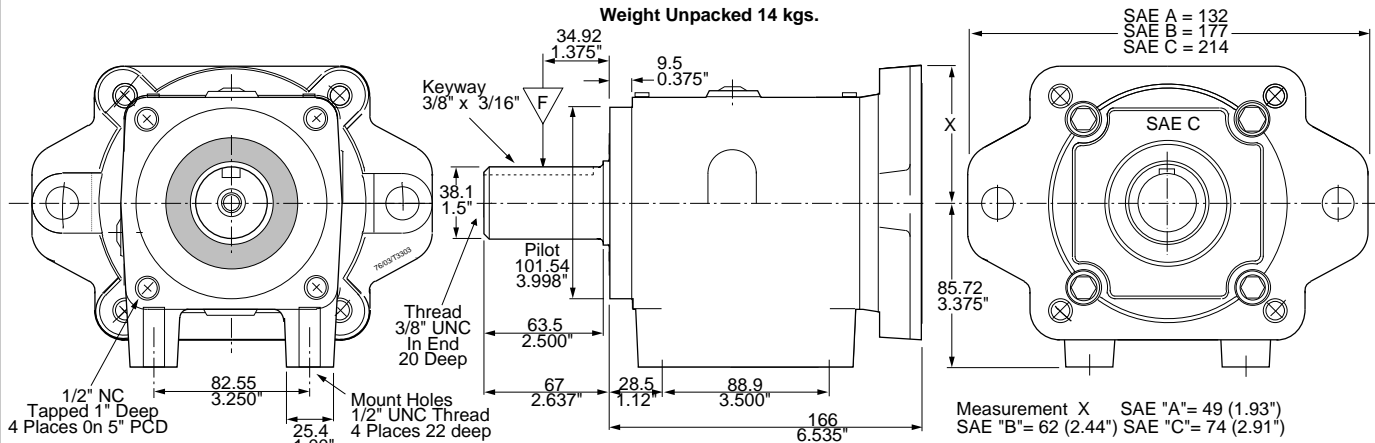


MODEL HDC

This model has removable SAE hydraulic motor adaptors and may be supplied with SAE "A", SAE "B" or SAE "C" motor interfacing and 10 shaft size options accommodating almost any SAE Hyd motor up to SAE "C". Bearings are Taper Roller type and units are usually supplied factory oil filled. Grease filling required for vertical mount. The HDC model may also be face mounted via a set of front mount holes and pilot.

MODEL HDC Dimensions

Weight Unpacked 14 kgs.



HDC Ordering information

Part Number	Hyd Motor Adaptor	Hyd Motor Shaft Type	Sleeve Part No.
93/15101	SAE "A"	Spline 9T 5/8" OD 16/32 DP	64/03/20001
93/15102	SAE "A"	Spline 11T 3/4" OD 16/32 DP	64/03/20002
93/15112	SAE "A"	Round 0.625" OD 0.156" Keyway	64/03/20012
93/15113	SAE "A"	Round 0.75" OD 0.187" Keyway	64/03/20013
93/15115	SAE "A"	Round 1.000" OD 0.25" Keyway	-
93/15203	SAE "B"	Spline 13T 7/8 OD 16/32 DP	58/03/01698
93/15204	SAE "B"	Spline 15T 1" OD 16/32 DP	58/03/00714
93/15206	SAE "B"	Spline 14T 1.250" OD 12/24 DP	-
93/15214	SAE "B"	Round 0.875" OD 0.25" Keyway	-
93/15215	SAE "B"	Round 1.000" OD 0.25" Keyway	-
93/15306	SAE "C"	Spline 14T 1.250" OD 12/24 DP	-
93/15324	SAE "C"	Round 1.250" OD 0.312" Keyway	-

APPLICATIONS.

Direct front crankshaft drive of hydraulic pumps from engine on cranes, transit mixers, special vehicles, fishing boats etc where pump requires disengaging when not in use. Use anticlockwise version for above applications.

Drives for hydraulic pumps from rear of engine or from flywheel PTO when engine has separate power delivery requirement where hydraulic pump needs disengaging when not in use. Use clockwise version for direct drive off rear of engine.

FEATURES.

The unit may be supplied to suit SAE 'A', SAE 'B' or SAE 'C' hydraulic pumps or motors or as a shaft to shaft version.

The standard manual version shown, features automatic spring loaded engagement on start-up and positive gate control in either the engaged or disengaged positions. The unit may be easily adapted for electric solenoid or cable control. The clutch casing is cast iron, bearings are deep groove ball type. The drive dogs are specially shaped to provide fast engagement and resistance to jump out even with reversing loads. The dogs are made from hardened high strength alloy steel. The unique actuating mechanism is designed for long trouble free life.

CAPACITY.

Maximum continuous input capacity is 0.04 kW (0.053 HP) per rev with a continuous torque rating of 382 Nm (282 lbf ft) Max brief peak torque is 560 Nm (413 lbs ft). Side loading is limited, contact our sales office. The unit is shipped dry, and must be filled before use. Fill to oil level plug depth with ATF automatic transmission fluid (approx.300ml). Ensure gasket or sealant is used between hyd. pump/motor and clutch as spline is open to lubricant.

Warning. Clutch may not be engaged while engine is running.

ORDERING CODE

Part Number

26/ C 24 C 06 R HD

HH DOG CLUTCH

26/

ROTATION

Clockwise

C

Anticlockwise

A

INPUT SHAFT CODE

Round 1 1/4"OD x 5/16" key

24

SAE HYD. INTERFACE

A B C S

S = Male shaft

HYD. INTERFACE SHAFT CODE

Spline 14T 1 1/4"OD 12/24DP

06

Spline 13T 7/8" OD 16/32DP

03

Spline 15T 1"OD 16/32DP

04

Spline 9T 5/8"OD 16/32DP

01

Male Round 1 1/4"OD x 5/16" key

24

OPTIONS

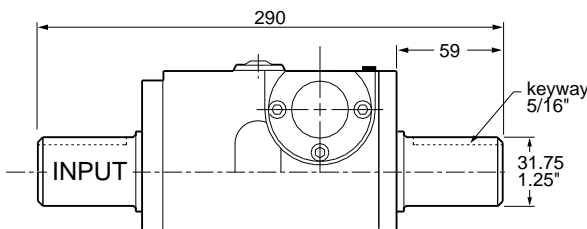
HD

Heavy Duty - Extra bearing for overhung loads and internal needle/thrust bearing for longer life.

Dimensions marked * increase by 28mm for HD model.



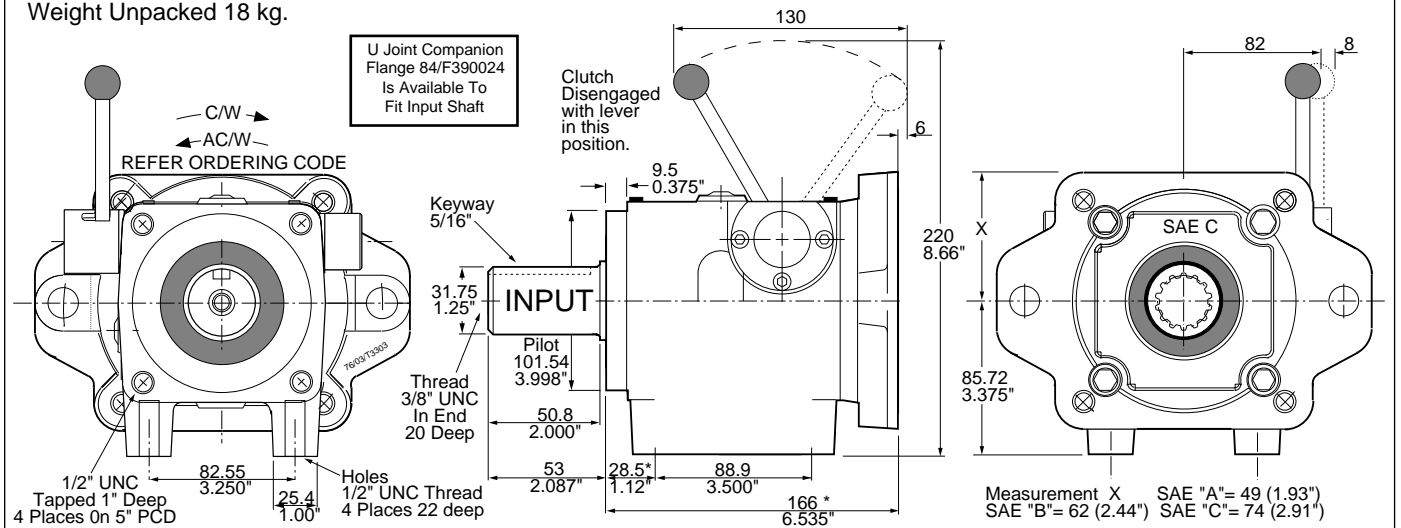
STRAIGHT SHAFT OPTION.



MODEL HH DOG CLUTCH Dimensions

Dimensions marked * increase by 28mm for HD model.

Weight Unpacked 18 kg.



CAST IRON CASES Unlike our competitors, we utilise cast iron gear case construction. Cast iron expansion at the high temperatures encountered with this application is near equal to the expansion of the bearings and the outer bearing rings are retained in the case. Aluminium cases with high heat expansion often fail due to the outer bearing ring spinning and displacing particles of aluminium which destroy the bearings.

MODEL T33

MODEL T33 APPLICATION These models embody over 20 years of engineering experience with PTO pump drives. They were developed for use as directly driven hydraulic pump speed increasers for 540 or 1000 RPM tractor PTO shafts. Models for 540 RPM PTO's are provided with a 1 3/8" 6T spline hollow shaft and for 1000 RPM PTO's, a 1 3/8" 21T spline hollow shaft. Shafts are splined internally for full length for through drive. Normal practice is to utilise a torque arm to restrain the drive from rotation.

Maximum power is 50 horsepower with the 1:3.31 ratio models at 540 RPM input and 65 Horsepower in the 2.04 ratio models at 1000 RPM input. The T33 is available to accept most SAE "A", SAE "B" or SAE "C" hydraulic pumps. Pump adaptors on the T33 may be changed in the field.

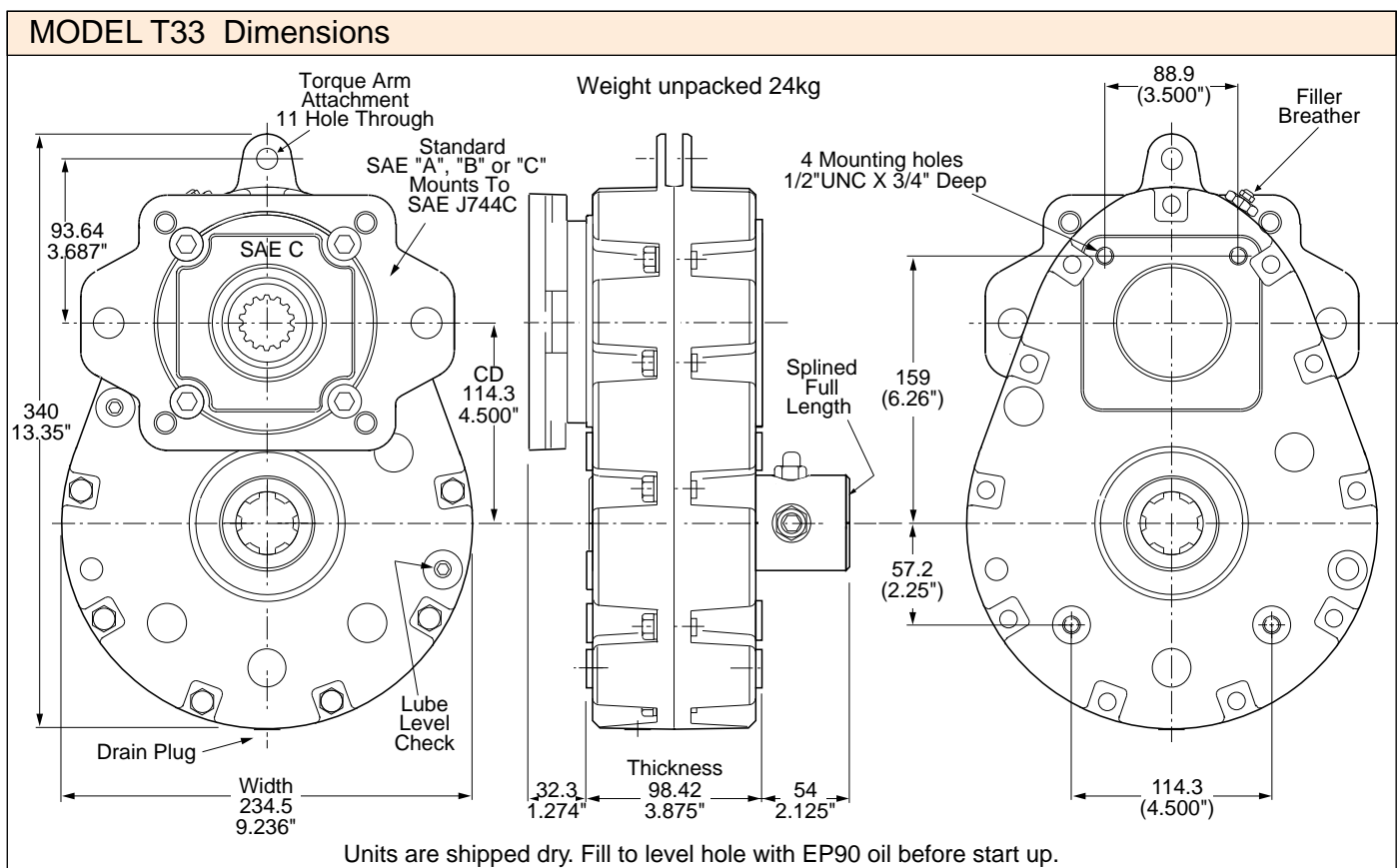
T33 Ordering Information					
Hyd Pump Adaptor	Gear Ratio	Hyd Pump Shaft Type	Tractor PTO Shaft	Sleeve Part No.	T33 Part Number
SAE "A"	1:3.31	9 Spline 5/8"	1 3/8" 6 Spline	58/03/10001	332/06101
SAE "A"	1:3.31	11 Spline 3/4"	1 3/8" 6 Spline	58/03/10002L	332/06102
SAE "B"	1:3.31	13 Spline 7/8"	1 3/8" 6 Spline	58/03/01698	332/06203
# SAE "B"	1:3.31	15 Spline 1"	1 3/8" 6 Spline	58/03/00714	332/06204
SAE "B"	1:3.31	14 Spline 1 1/4"	1 3/8" 6 Spline	-	332/06206
SAE "B"	1:2.04	13 Spline 7/8"	1 3/8" 21 Spline	58/03/01698	331/21203
# SAE "B"	1:2.04	15 Spline 1"	1 3/8" 21 Spline	58/03/00714*	331/21204
SAE "C"	1:3.31	13 Spline 7/8"	1 3/8" 6 Spline	58/03/01698	332/06303
# SAE "C"	1:3.31	15 Spline 1"	1 3/8" 6 Spline	58/03/00714	332/06304
SAE "C"	1:3.31	14 Spline 1 1/4"	1 3/8" 6 Spline	-	332/06306
SAE "C"	1:2.04	14 Spline 1 1/4"	1 3/8" 21 Spline	-	331/21306
SAE "C"	1:2.04	21 Spline 1 3/8"	1 3/8" 21 Spline	-	331/21307



* Older Models only

Made to special order.

Above are standard combinations. Other combinations available.





HYDRAULIC PUMP DRIVES FOR AGRICULTURAL IMPLEMENT MOUNTING

GP208

PARTS AVAILABILITY The drives have been designed in Australia and are mfg at our facility in Ballina N.S.W. Customer can obtain parts and service without delay. Technical assistance is available from the people who designed the product.

MODEL T33I

MODEL T33I APPLICATION This model was developed for use as an implement mounted hydraulic pump speed increaser for 1000 or 540 rpm tractor PTOs where thrust loads from PTO shafts are encountered. Tapped mounting holes are provided or a factory fitted base mounting bracket can be supplied.

Maximum power is 50 horsepower with the 1:3.31 ratio models at 540 rpm input and 65 Horsepower with the 1:2.04 ratio models at 1000 rpm input. The T33I male shaft input model is available to accept most SAE "A", SAE "B" or SAE "C" hydraulic pumps. Pump adaptors on the T33I may be changed in the field. The T33I male shaft input & output model is supplied with a $\varnothing 1\ 1/2" \times 3/8"$ keyed output shaft.

T33 Ordering Information					
Hyd Pump Adaptor	Gear Ratio	Hyd Pump Shaft Type	T33I Shaft	Sleeve Part No.	T33I Part Number
SAE "A"	1:3.31	9 Spline 5/8"	1 3/8" 6 Spline	58/03/10001	332I/06101
SAE "A"	1:3.31	11 Spline 3/4"	1 3/8" 6 Spline	58/03/10002L	332I/06102
SAE "B"	1:3.31	13 Spline 7/8"	1 3/8" 6 Spline	58/03/01698	332I/06203
# SAE "B"	1:3.31	15 Spline 1"	1 3/8" 6 Spline	58/03/00714	332I/06204
# SAE "C"	1:3.31	15 Spline 1"	1 3/8" 6 Spline	58/03/00714	332I/06304
SAE "C"	1:3.31	14 Spline 1 1/4"	1 3/8" 6 Spline	-	332I/06306
SAE "B"	1:2.04	13 Spline 7/8"	1 3/8" 21 Spline	58/03/01698	331I/21203
# SAE "B"	1:2.04	15 Spline 1"	1 3/8" 21 Spline	58/03/00714*	331I/21204
SAE "C"	1:2.04	14 Spline 1 1/4"	1 3/8" 21 Spline	-	331I/21306
T33I Ordering Information - Male shaft input & output					
	1:2.04	1 1/2" x 3/8" key	1 3/8" 21 Spline	-	331I/21M60
	1:3.31	1 1/2" x 3/8" key	1 3/8" 6 Spline	-	332I/06M60

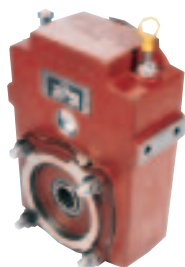


* Older Models only

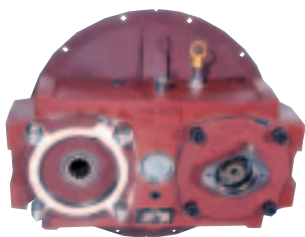
Made to special order.

Above are standard combinations. Other combinations available.

MODEL T33i Male shaft input	Male input & output dimensions
	<p>Optional male output shaft arrangement available on T33 & T33i models.</p>



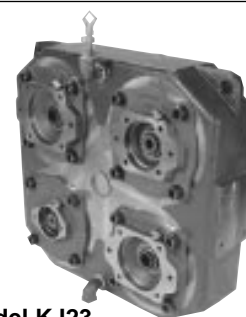
Model KF89



Model KF01



Model KJ45



Model KJ23

HELIDRAULIC PUMP DRIVES

Durst has developed a family of gear drive products for use with hydraulic pumps and motors. These drives are available for mounting SAE standard hydraulic flanges and pump or motor shaft configurations directly to the gear drive unit. Models are available to mount directly to SAE flywheel housings, with or without clutches or can be driven through independent mounting arrangements.

Helidraulic pump drives include the following major features:

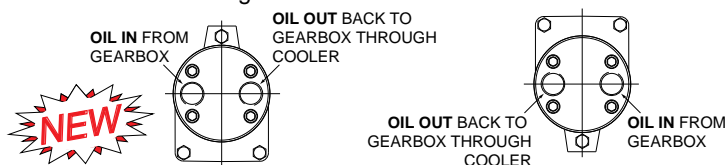
- High tensile iron castings in highly stressed components.
- AISI 8620 forgings or barstock for gears, carburised to Rockwell C-58 minimum.
- AISI 8620 shaft material, carburised to Rockwell C-58 minimum, or AISI C-1144 stress relieved.
- Nitrile or Viton dual lip seals.
- Tapered roller bearings.
- Helical gears, crowned and shaved for quiet operation and high performance.
- A wide variety of standard gear ratios.

THERMAL CAPACITY

The thermal capacity is defined as the power a gear drive will transmit continuously with out overheating. Durst pump drives are used in such a wide variety of operating conditions that only mechanical rating are shown. Under conditions such as restricted air circulation, high speeds and high loads, the thermal capacity may be less than the mechanical rating. Checking the thermal capacity is extremely important during the first few hours of operation. If the heat is being generated faster than it can be dissipated, severe damage may result and provisions for additional cooling should be provided. This may be accomplished by air circulation around the unit or by a recirculating oil system. If additional cooling is not possible a larger capacity unit should be used.

OPTIONAL LUBE PUMP AND OIL COOLER.

Most models can be supplied with a centrally mounted gear pump for passing lube oil to a water or air cooled heat exchanger. We stock heat exchanger kits for most models.



MODELS
KF01, KJ45, KJ23

MODEL
KF45

KF RATIO OPTIONS

Reducer	Increaser
*1.00	-
1.15	1.15
1.23	1.23
1.31	1.31
1.41	1.41
1.51	1.51
1.68	1.68

* 1.00 Ratio is listed as a reducer for convenience only.

KJ RATIO OPTIONS

Reducer	Increaser
*1.00	-
1.1	1.1
1.19	1.19
1.29	1.29
1.39	1.39

* 1.00 Ratio is listed as a reducer for convenience only.

RATINGS

The power ratings for Durst gearboxes are based upon the following operating conditions:

- Uniform operating loads.
- Maximum oil sump temperature of 93°C (200°F).

The power ratings listed are at peak power. Units are unable to run continuously at these rating due to thermal limitations.

Model	Power HP	Power kW	Max speed RPM	Max torque lb.ft	Max torque Nm
KF89	355	264	3000	746	1008
KF01	360	268	3000	756	1024
KF45	360	268	3000	756	1024
KJ45	465	346	3000	977	1322
KJ23	462	345	3000	971	1318

Ratings are based upon component life using a 1:1 ratio @ 2500 rpm for a 2000 hour L-10 life. The full unit rating can be loaded through one pump pad provided the total loading does not exceed unit rating. Durst pump drives are engineered for an optimum balance between mechanical and thermal capacities. Helical gearing and tapered roller bearings provide a quality pump drive with excellent shock absorbing features and low noise characteristics.

Durst drives are designed to accept 100 percent starting overloads or momentary peaks from electric motor driven applications.

SPEED LIMITATIONS

For shaft speeds in excess of 3000 rpm consult factory.

ENGINE HOUSING ADAPTORS

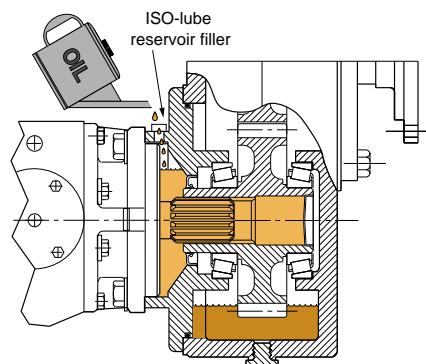
Housing adaptors SAE 1, 2, 3 & 4 are available for all models.

HYDRAULIC PUMP ADAPTORS

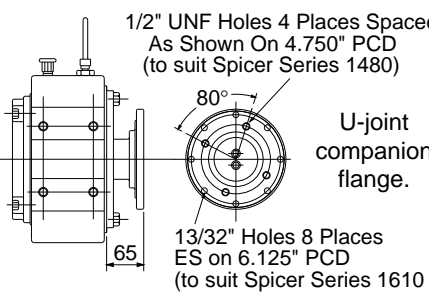
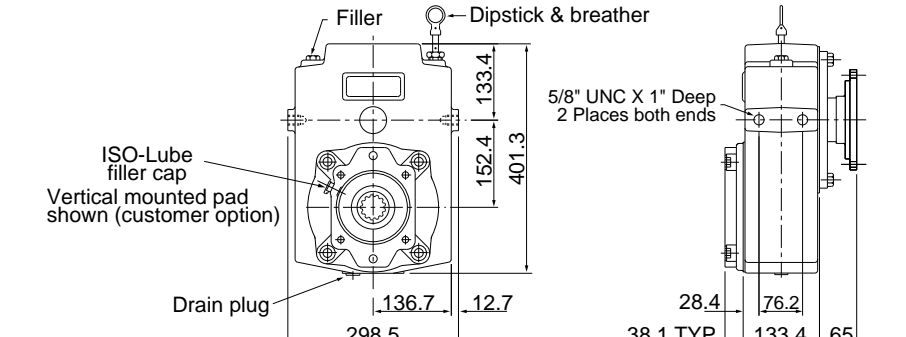
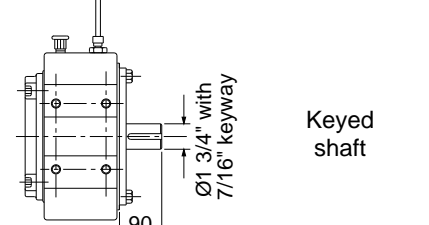
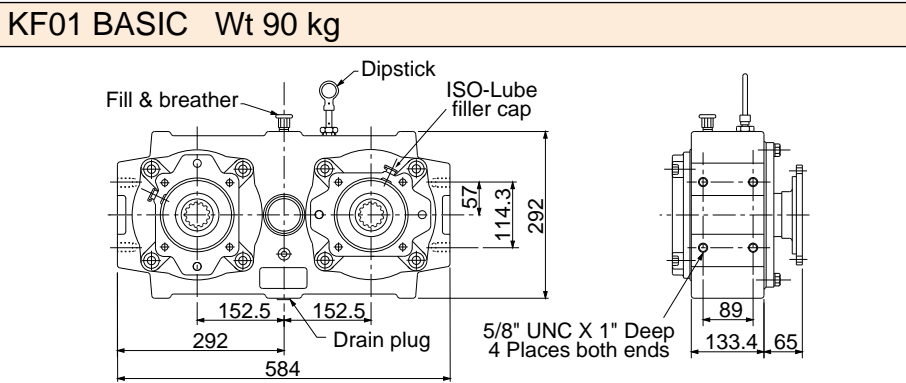
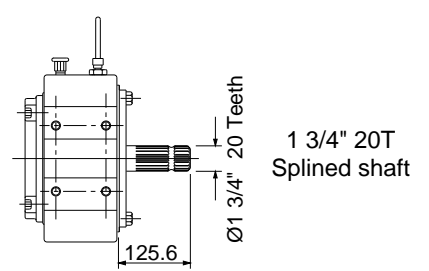
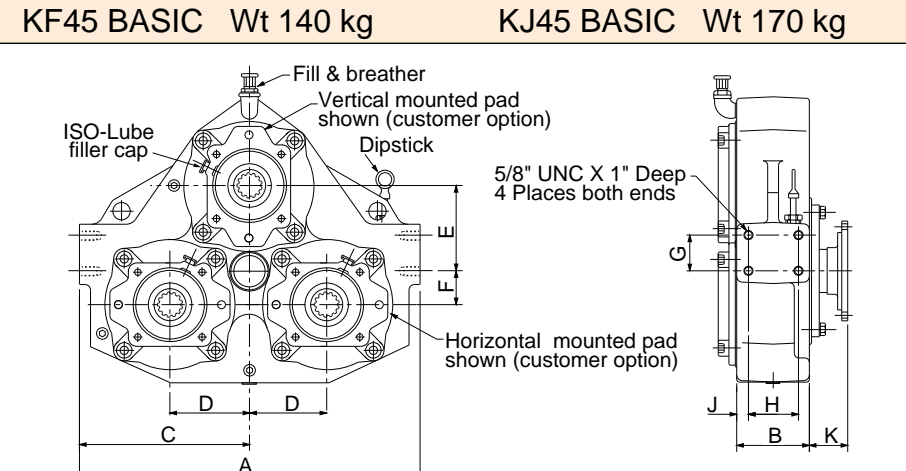
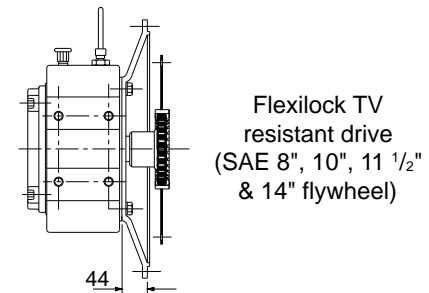
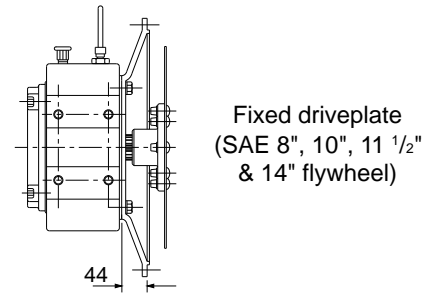
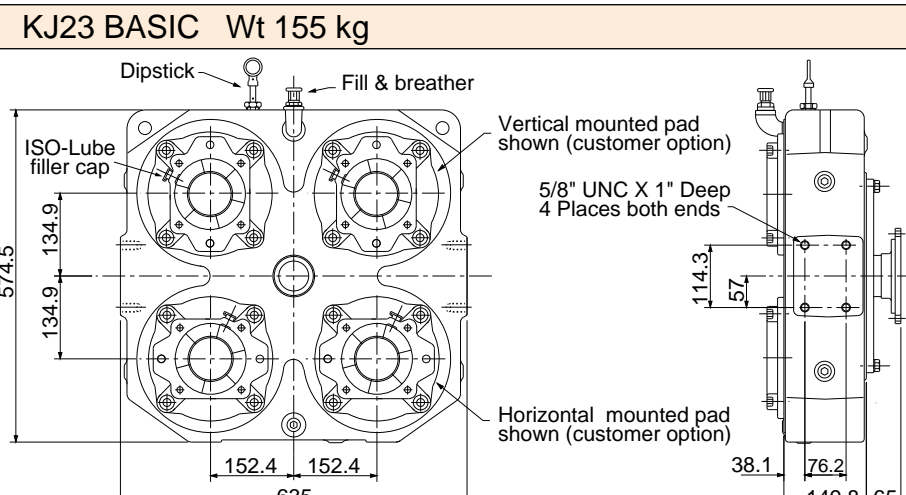
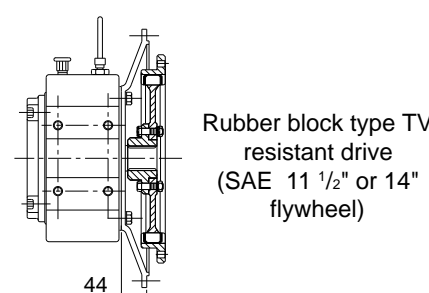
Pump rotation is anti-enginewise. Standard available pump adaptors and sleeves include SAE A, B, C, D & E.

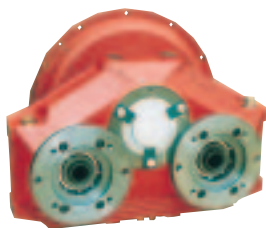
ISO-LUBE PUMP ADAPTORS

ISO-lube pump adaptors are supplied as standard. The unique ISO-lube wet spline pad design provides a separate reservoir for the pump shaft splines while sealing gearbox housing from pump leakage. Also, in the event of pump shaft seal failure hydraulic pump oil is relieved externally instead of flooding the gearbox.

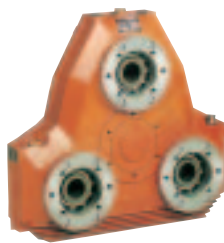


For ordering information and part code contact our sales office - Larger models available

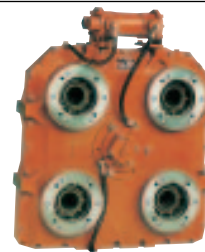
INPUT OPTIONS	KF89 BASIC Wt 57 kg																																	
 <p>1/2" UNF Holes 4 Places Spaced As Shown On 4.750" PCD (to suit Spicer Series 1480)</p> <p>U-joint companion flange.</p> <p>80°</p> <p>13/32" Holes 8 Places ES on 6.125" PCD (to suit Spicer Series 1610)</p> <p>65</p>	 <p>Filler</p> <p>Dipstick & breather</p> <p>ISO-Lube filler cap</p> <p>Vertical mounted pad shown (customer option)</p> <p>Drain plug</p> <p>5/8" UNC X 1" Deep 2 Places both ends</p> <p>133.4</p> <p>152.4</p> <p>401.3</p> <p>136.7</p> <p>12.7</p> <p>298.5</p> <p>28.4</p> <p>76.2</p> <p>38.1 TYP</p> <p>133.4</p> <p>65</p>																																	
 <p>Keyed shaft</p> <p>Ø1 3/4" with 7/16" keyway</p> <p>90</p>	<p style="background-color: #f9cb9c;">KF01 BASIC Wt 90 kg</p>  <p>Dipstick</p> <p>ISO-Lube filler cap</p> <p>Drain plug</p> <p>5/8" UNC X 1" Deep 4 Places both ends</p> <p>292</p> <p>114.3</p> <p>57</p> <p>152.5</p> <p>152.5</p> <p>292</p> <p>584</p> <p>89</p> <p>133.4</p> <p>65</p>																																	
 <p>1 3/4" 20T Splined shaft</p> <p>Ø1 3/4" 20 Teeth</p> <p>125.6</p>	<p style="background-color: #f9cb9c;">KF45 BASIC Wt 140 kg</p> <p style="background-color: #f9cb9c;">KJ45 BASIC Wt 170 kg</p>  <p>Fill & breather</p> <p>ISO-Lube filler cap</p> <p>Dipstick</p> <p>Vertical mounted pad shown (customer option)</p> <p>Horizontal mounted pad shown (customer option)</p> <p>5/8" UNC X 1" Deep 4 Places both ends</p> <p>W</p> <p>L</p> <p>L</p> <p>D</p> <p>D</p> <p>C</p> <p>A</p> <p>J</p> <p>H</p> <p>B</p> <p>K</p>																																	
 <p>Flexilock TV resistant drive (SAE 8", 10", 11 1/2" & 14" flywheel)</p> <p>44</p>	<table border="1"> <thead> <tr> <th>MODEL</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> <th>G</th> <th>H</th> <th>J</th> <th>K</th> </tr> </thead> <tbody> <tr> <td>KF45</td> <td>609.6</td> <td>133.4</td> <td>304.8</td> <td>140.7</td> <td>152.4</td> <td>58.4</td> <td>63.5</td> <td>89</td> <td>22</td> <td>65</td> </tr> <tr> <td>KJ45</td> <td>650.7</td> <td>150</td> <td>325.4</td> <td>165</td> <td>203.4</td> <td>118.8</td> <td>114.3</td> <td>89</td> <td>38</td> <td>65</td> </tr> </tbody> </table>	MODEL	A	B	C	D	E	F	G	H	J	K	KF45	609.6	133.4	304.8	140.7	152.4	58.4	63.5	89	22	65	KJ45	650.7	150	325.4	165	203.4	118.8	114.3	89	38	65
MODEL	A	B	C	D	E	F	G	H	J	K																								
KF45	609.6	133.4	304.8	140.7	152.4	58.4	63.5	89	22	65																								
KJ45	650.7	150	325.4	165	203.4	118.8	114.3	89	38	65																								
 <p>Fixed driveplate (SAE 8", 10", 11 1/2" & 14" flywheel)</p> <p>44</p>	<p style="background-color: #f9cb9c;">KJ23 BASIC Wt 155 kg</p>  <p>Dipstick</p> <p>Fill & breather</p> <p>ISO-Lube filler cap</p> <p>Vertical mounted pad shown (customer option)</p> <p>Horizontal mounted pad shown (customer option)</p> <p>5/8" UNC X 1" Deep 4 Places both ends</p> <p>574.5</p> <p>134.9</p> <p>134.9</p> <p>152.4</p> <p>152.4</p> <p>635</p> <p>114.3</p> <p>57</p> <p>38.1</p> <p>76.2</p> <p>149.8</p> <p>65</p>																																	
 <p>Rubber block type TV resistant drive (SAE 11 1/2" or 14" flywheel)</p> <p>44</p>																																		



Model AM220



Model AM330



Model AM450
(with optional lube pump and cooler)

APPLICATION

These gearboxes permit a number of hydraulic pumps to be driven from the one power source, usually, a diesel engine. However, they may be driven from most power sources directly as a shaft to shaft drive through a flexible coupling or via a universal joint drive train. Two, three and four pump models are available. In some instance, pumps can be mounted on both front and back of gearbox. Eg:- Up to 9 pumps have been fitted to the model AM450.

TECHNICAL DETAILS

- Cases, housings and adaptors are grey iron.
- Gears: Shaved spur on AM 216/320.
- Ground teeth on larger models
- Standard gear ratio 1:1. Other ratios on application.
- Bearings are deep groove ball with L10 life of 5000 hours.

POWER , TORQUE AND THERMAL RATINGS

The mechanical strength capability of all hydraulic pump drive gearboxes far exceeds their thermal capacity. These gearboxes can transmit high torque loads, however their service life is more often limited by the thermal capacity. For maximum life the lube oil temperature should not exceed 95 °C. Selection of the gearbox must take into account actual operating conditions, this includes considering the input power, speed, type of load and duty experienced. During operation lubricant oil temperature should be closely monitored, it is therefore important to ensure easy access to drain, fill and oil level plugs when designing the installation. It is strongly recommended that all applications are reviewed by our factory sales engineers. All selections must be approved prior to unit shipment to validate warranty.

MODEL	Power* Input kW	Max Speed RPM	Max Torque Nm per Pump
TWO PUMP DRIVES			
AM216	0.045 kW Per Rev to 2000 RPM Thereafter Max 90 kW to 3200 RPM	3200	390
AM220	0.083 kW Per Rev to 1800 RPM Thereafter Max 150 kW to 3200 RPM	3200	600
AM230	0.15 kW Per Rev to 1500 RPM Thereafter Max 220 kW to 2600 RPM	2600	715
AM232	0.16 kW Per Rev to 1500 RPM Thereafter Max 240 kW to 2400 RPM	2400	895
THREE PUMP DRIVES			
AM320	0.062 kW Per Rev to 2000 RPM Thereafter Max 112 kW to 3200 RPM	3200	390
AM330	0.103 kW Per Rev to 1800 RPM Thereafter Max 185 kW to 3200 RPM	3200	600
AM345	0.200 kW Per Rev to 1500 RPM Thereafter Max 300 kW to 2600 RPM	2600	715
FOUR PUMP DRIVES			
AM450	0.25 kW Per Rev to 1500 RPM Thereafter Max 375 kW to 2400 RPM	2400	1010

SERVICE CATEGORIES AND FACTORS

The service factor for your application must be applied to the power rating for each model. Mobile & off road equipment , stationary industrial appliances and appliances with cooling systems all have different service factors. For an application to be considered intermittent periods of operation at maximum power must be followed by periods of shutdown sufficient to allow lube oil to cool to near ambient temperature. Where systems cycle with full power on and off for short periods only, 6 minutes should be considered as max continuous duty cycle time. Contact our sale office for a service factor for your application.

GEARBOX LIFE CONSIDERATIONS

On diesel engine applications, the life of the gearbox may be significantly reduced if torsional vibration (TV) is not considered. This is most relevant where the hydraulic pump elements have large rotating masses (moments of inertia). The life of the gearbox and hyd pumps will be increased if TV can be reduced or eliminated. All of our pump drives are available with a range of flywheel mounted couplings for most applications. These include flywheel mounted TV absorbing Flexilock 195 polymer gear type couplings and RBD type couplings. The flywheel mounted fixed driveplate type couplings will not absorb TV and are recommended only for use in mobile light duty service.

HYDRAULIC PUMP ADAPTORS.

Pump rotation is anti-engine wise. Standard available pump adaptors and shaft sleeves include SAE: A, B, C, D and E. We also stock most metric (DIN) type adaptors and shaft sleeves. The design of Technodrive pump drives also permits to fitting of nonstandard pumps with keyed or splined shafts.

ENGINE INTERFACING. See diesel engine standards J620D for flywheels and J617C for engine housings on page 4 of this catalogue.

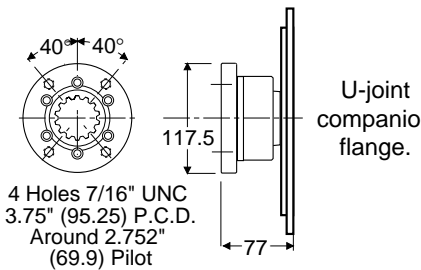
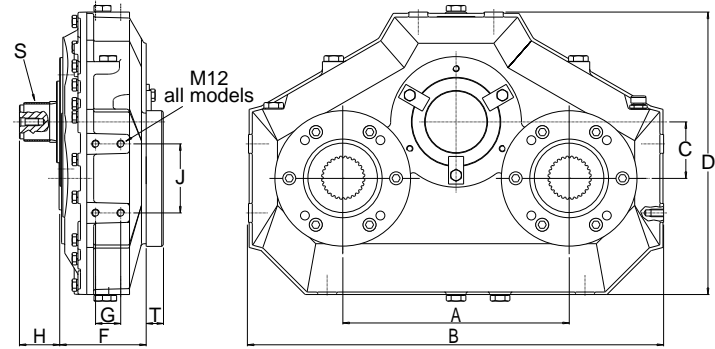
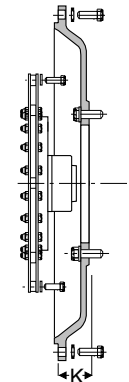
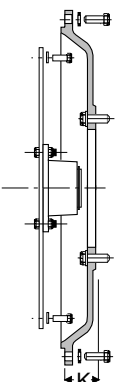
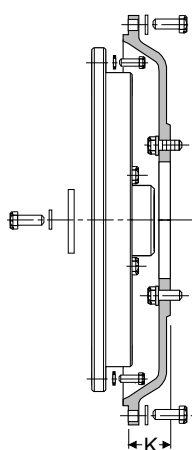
LONG LIFE EXPECTANCY. Technodrive are highly experienced and recognise the specific problems associated with this high speed gearbox application. Gear design and manufacture is arranged to provide low noise levels and high efficiency. Special attention has been given to case design to take into account the lubrication requirements for the gears bearings and internal splines.

TECHNICAL SERVICE AND SPARES READILY AVAILABLE.

OEM Dynamics are the largest stockists of Technodrive outside of Europe and maintain a large inventory of service parts for pump drives. OEM Dynamics have been associated with hydraulic pump drive applications for 20 years and we are proud to be able to offer the best advice available in the industry.

OPTIONAL LUBE PUMP AND OIL COOLER.

Most models can be supplied with a centrally mounted gear pump for passing lube oil to a water or air cooled heat exchanger. We stock heat exchanger kits for most models.

INPUT OPTIONS	MODELS AM216, AM220, AM230 & AM232																																																												
 <p>U-joint companion flange.</p> <p>4 Holes 7/16" UNC 3.75" (95.25) P.C.D. Around 2.752" (69.9) Pilot</p>	 <p>M12 all models</p>																																																												
 <p>Diesel Input 195 Flexilock TV resistant Max torque 969 Nm</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr style="background-color: #f2f2f2;"> <th>MODEL</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>F</th> <th>G</th> <th>H</th> <th>J</th> <th>K</th> <th>S</th> <th>Wt kg</th> </tr> </thead> <tbody> <tr> <td>AM216</td> <td>254</td> <td>450</td> <td>-</td> <td>253</td> <td>110</td> <td>0</td> <td>63.5</td> <td>100</td> <td>50</td> <td>B48x44 DIN5482</td> <td>40</td> </tr> <tr> <td>AM220</td> <td>299</td> <td>570</td> <td>86</td> <td>360</td> <td>129</td> <td>30</td> <td>63.5</td> <td>165</td> <td>50</td> <td>B48x44 DIN5482</td> <td>76</td> </tr> <tr> <td>AM230</td> <td>360</td> <td>660</td> <td>90</td> <td>450</td> <td>137.5</td> <td>40</td> <td>64</td> <td>110</td> <td>50</td> <td>B62x57 DIN5482</td> <td>103</td> </tr> <tr> <td>AM232</td> <td>460</td> <td>800</td> <td>-</td> <td>430</td> <td>137</td> <td>40</td> <td>64</td> <td>110</td> <td>50</td> <td>B62x57 DIN5482</td> <td>132</td> </tr> </tbody> </table> <p style="text-align: center;">T - varies from 15 to 75. Depends on pump</p>	MODEL	A	B	C	D	F	G	H	J	K	S	Wt kg	AM216	254	450	-	253	110	0	63.5	100	50	B48x44 DIN5482	40	AM220	299	570	86	360	129	30	63.5	165	50	B48x44 DIN5482	76	AM230	360	660	90	450	137.5	40	64	110	50	B62x57 DIN5482	103	AM232	460	800	-	430	137	40	64	110	50	B62x57 DIN5482	132
MODEL	A	B	C	D	F	G	H	J	K	S	Wt kg																																																		
AM216	254	450	-	253	110	0	63.5	100	50	B48x44 DIN5482	40																																																		
AM220	299	570	86	360	129	30	63.5	165	50	B48x44 DIN5482	76																																																		
AM230	360	660	90	450	137.5	40	64	110	50	B62x57 DIN5482	103																																																		
AM232	460	800	-	430	137	40	64	110	50	B62x57 DIN5482	132																																																		
 <p>Fixed driveplate not rated</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr style="background-color: #f2f2f2;"> <th>MODEL</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>F</th> <th>G</th> <th>H</th> <th>J</th> <th>K</th> <th>S</th> <th>Wt kg</th> </tr> </thead> <tbody> <tr> <td>AM320</td> <td>220</td> <td>450</td> <td>190</td> <td>441</td> <td>110</td> <td>0</td> <td>63</td> <td>100</td> <td>50</td> <td>B48x44 DIN5482</td> <td>48</td> </tr> <tr> <td>AM330</td> <td>299</td> <td>570</td> <td>259</td> <td>530</td> <td>129</td> <td>30</td> <td>63.5</td> <td>165</td> <td>50</td> <td>B48x44 DIN5482</td> <td>139</td> </tr> <tr> <td>AM345</td> <td>360</td> <td>660</td> <td>291</td> <td>630</td> <td>137.5</td> <td>40</td> <td>64</td> <td>110</td> <td>50</td> <td>B62x57 DIN5482</td> <td>131</td> </tr> </tbody> </table> <p style="text-align: center;">T - varies from 15 to 75. Depends on pump</p>	MODEL	A	B	C	D	F	G	H	J	K	S	Wt kg	AM320	220	450	190	441	110	0	63	100	50	B48x44 DIN5482	48	AM330	299	570	259	530	129	30	63.5	165	50	B48x44 DIN5482	139	AM345	360	660	291	630	137.5	40	64	110	50	B62x57 DIN5482	131												
MODEL	A	B	C	D	F	G	H	J	K	S	Wt kg																																																		
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AM345	360	660	291	630	137.5	40	64	110	50	B62x57 DIN5482	131																																																		
 <p>Rubber block type TV resistant Torques 860 to 3490 Nm</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr style="background-color: #f2f2f2;"> <th>MODEL</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>F</th> <th>G</th> <th>H</th> <th>J</th> <th>K</th> <th>S</th> <th>Wt kg</th> </tr> </thead> <tbody> <tr> <td>AM450</td> <td>201.5</td> <td>137.5</td> <td>26.5</td> <td>80</td> <td>64</td> <td>240</td> <td>343.6</td> <td>672</td> <td>672</td> <td>171.8</td> <td>171.8</td> <td>217</td> </tr> </tbody> </table> <p style="text-align: center;">T - varies from 15 to 75. Depends on pump</p> <p style="text-align: right;">Weight - 217kg</p>	MODEL	A	B	C	D	F	G	H	J	K	S	Wt kg	AM450	201.5	137.5	26.5	80	64	240	343.6	672	672	171.8	171.8	217																																			
MODEL	A	B	C	D	F	G	H	J	K	S	Wt kg																																																		
AM450	201.5	137.5	26.5	80	64	240	343.6	672	672	171.8	171.8	217																																																	

HEAVY DUTY CAST IRON CASE MODELS WITH TAPER ROLLER BEARINGS



Model 1000



Model 88



Model 66



Model 150

INTRODUCTION.

HUB CITY bevel drives have been available in Australia since 1976. The range shown here are the basic models in straight and spiral bevel which we stock in this country. Numerous other variations are available on an indent basis.

APPLICATION.

Bevel Gear Drives transfer power at 90°. Generally this power is transferred at a 1:1 ratio with relation to speed. However these gear drives are capable of increasing or reducing speed depending upon the gear ratio used.

SHAFT ROTATION.

Shaft rotation is determined by the relative location of the gears. Right hand (clockwise) or left hand (counter clockwise) rotations are determined by viewing the end of the shaft. Pinion shaft can be rotated in either direction. Refer figures below right.

BASIC SELECTION.

Bevel gear drives are selected on the basis of speed, ratio, power and torque. FOR quick selection refer to the "POPULAR MODELS" box below. Select the ratio, power in kW and input speed required. Power is shown as kW per 100 RPM. To convert to this scale divide the power (kW) required by the input speed to be used and them multiply answer by 100. Then pick a model which meets or exceeds the power per 100 RPM you have calculated while having suitable ratio and RPM range to meet your requirements.

STRAIGHT OR SPIRAL BEVEL.

Both Straight and Spiral bevel drives are available. Straight bevel drives are suitable for lower input speeds while spiral bevel drives are suitable for higher input speeds due to their quietness and smoother gear meshing action. They are also generally able to handle higher power but are more expensive than straight bevels.

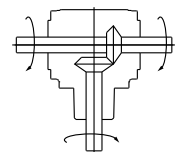
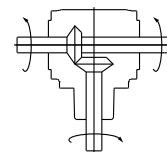
POPULAR MODELS							GP19
MODEL	GEAR TYPE	RATIO	SHAFT SIZE	kW per 100 RPM*	MAX IN RPM	DRY WT kg	ORDERING CODE
M 3	ST	1:1	0.625"	0.093	2400	4.6	02/20/21101
M 3	ST	1.5:1	0.625"	0.065	3000	4.6	02/20/21106
44	ST	1:1	0.750"	0.850	1750	6.9	02/20/75460
44	ST	2:1	0.750"	0.254	1750	6.9	02/20/75463
150	ST	1:1	1.000"	0.778	1150	11	02/20/00802
150	SP	1:1	1.000"	0.666	3000	11	02/20/00813
150	ST	1.5:1	1.000"	0.393	1750	11	02/20/00826
150	ST	2:1	1.000"	0.280	2400	11	02/20/00818
150	SP	2:1	1.000"	0.381	2400	11	02/20/00849
165	ST	1:1	1.000"	1.102	1150	12	02/20/00901
165	SP	1:1	1.000"	0.667	3000	12	02/20/00906
165	ST	1.5:1	1.000"	0.393	1750	12	02/20/00918
165	ST	2:1	1.000"	0.280	2400	12	02/20/00911
66	ST	1:1	1.250"	1.569	1150	22	02/20/03513
66	SP	1:1	1.250"	1.833	2400	22	02/20/03519
66	SP	1.53:1	1.250"	1.392	3000	22	02/20/03552
66	ST	2:1	1.250"	0.311	1750	22	02/20/03525
66	SP	2:1	1.250"	0.634	3000	22	02/20/03606
66	SP	3:1	1.250"	0.382	3000	22	02/20/03601
600	ST	1:1	1.375"	2.205	1150	24	02/20/03401
600	SP	1:1	1.375"	1.833	2400	24	02/20/03406
600	SP	1.29:1	1.375"	1.439	2400	24	02/20/03431
88	ST	1:1	1.375"	3.860	850	40	02/20/04404
88	SP	1:1	1.375"	3.835	1750	40	02/20/04010
88	ST	1.5:1	1.375"	2.528	1150	40	02/20/04041
88	ST	2:1	1.375"	1.427	1150	40	02/20/04015
88	SP	2:1	1.375"	2.386	1750	40	02/20/04079
88	ST	3:1	1.375"	0.639	1750	40	02/20/04026
800	ST	1:1	1.500"	6.074	690	53	02/20/59301
800	SP	1:1	1.500"	5.625	1750	53	02/20/59346
800	SP	1.5:1	1.500"	2.940	1750	53	02/20/59341
1000	ST	1:1	1.750"	8.646	690	62	02/20/04601
1010	SP	1:1	2.000"	10.695	1750	80	02/20/06301
1010	SP	1.5:1	2.000"	7.372	1750	80	02/20/06306
1010	SP	2:1	2.000"	5.280	1750	80	02/20/06311

SERVICE FACTORS.

The ratings for bevel drives are based on a service factor of 1.00, assuming uniform loads and uniform power source for up to 10 hours operation per day. For other operating conditions, the power or torque must be multiplied by the appropriate service factor, to determine the equivalent rating. AGMA Service factor tables are available upon request.

DRIVE STYLES.

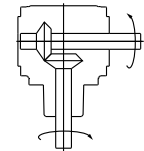
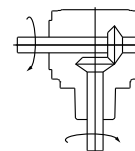
Bevel drives have pinion shafts and cross shafts. Normally the input is at the pinion shaft. The type of cross shaft determines the style as can be seen below.



A = Plan View.

B = Inverted View

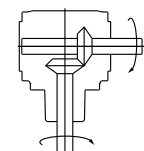
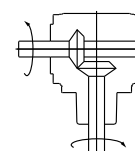
So this unit is known as Style A B



C = Plan View.

F = Inverted View

So this unit is known as Style C F



D = Plan View.

E = Inverted View

So this unit is known as Style D E

Ordering

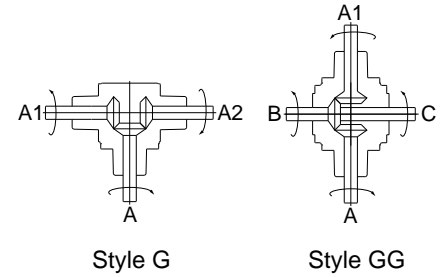
Use the ordering codes as shown on the previous page and add the required style code AB or CF or DE to the end of the ordering code. Eg:- 02/20/00802AB
For configurations or models not shown, factory numbers will be provided at time of order.

Other Styles

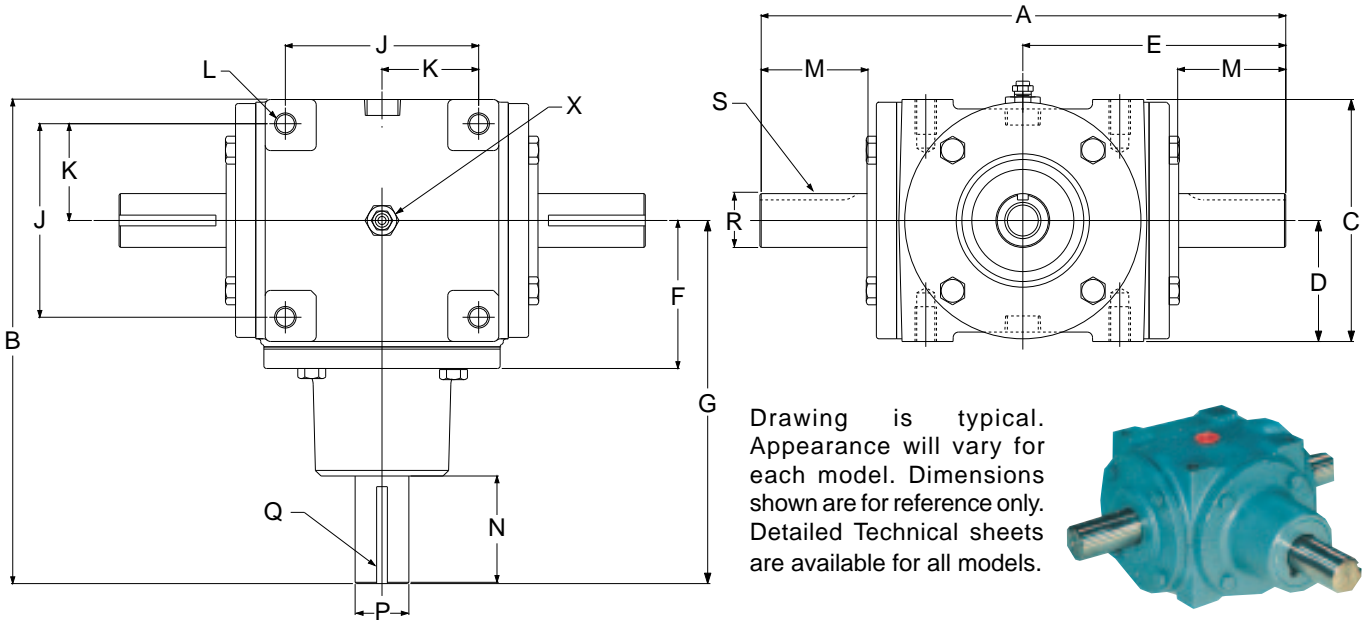
To the right are shown two types of directional differential styles which are available in most models to special order.

Hollow Cross Shafts.

Some models are available with hollow cross shafts to special order. Consult us for details.



Bevel Gear Drive Dimensions



MODEL	A	B	C	D	E	F	G	J	K	L	M	N	ØP	Q	ØR	S
M3	6 15/32	6 3/16	3 3/16	1 19/32	3 15/64	1 3/4	4 9/16	2 1/4	1 1/8	5/16 UNC	1 1/2	1 17/32	5/8	3/16 X 3/32	5/8	3/16 X 3/32
44	7 15/16	7 1/8	3 5/8	1 13/16	3 31/32	2 5/16	5 3/16	3 1/8	1 9/16	5/16 UNC	1 1/2	1 1/2	3/4	3/16 X 3/32	3/4	3/16 X 3/32
150	10 3/16	8 9/32	4 1/8	2 1/16	5 3/32	2 27/32	5 23/32	4 1/4	2 1/8	3/8 UNC	2	2	1	1/4 X 1/8	1	1/4 X 1/8
165	10 3/16	9 23/32	4 1/8	2 1/16	5 3/32	2 7/8	7 5/32	4 1/4	2 1/8	3/8 UNC	2	2 1/32	1	1/4 X 1/8	1	1/4 X 1/8
66	12 1/4	11 1/4	5 5/8	2 13/16	6 1/8	3 7/16	8 7/16	4 1/2	2 1/4	1/2 UNC	2 1/2	2 9/16	1 1/4	1/4 X 1/8	1 1/4	1/4 X 1/8
600	12 1/4	11 7/32	5 5/8	2 13/16	6 1/8	3 7/16	8 13/32	4 1/2	2 1/4	1/2 UNC	2 1/2	2 1/2	1 3/8	5/16 X 5/32	1 3/8	5/16 X 5/32
88	15 13/16	14 23/32	8 3/16	4 3/32	7 29/32	4 19/32	10 7/8	6 1/2	3 1/4	1/2 UNC	3	3 1/16	1 3/8	5/16 X 5/32	1 3/8	5/16 X 5/32
800	16 3/32	15 21/32	8 3/16	4 3/32	8 3/64	4 9/16	11 1/2	6 1/2	3 1/4	1/2 UNC	3 3/32	3 1/16	1 1/2	3/8 X 3/16	1 1/2	3/8 X 3/16
1000	18 9/32	17 3/4	9 1/2	4 3/4	9 9/64	5 1/4	13	8	4	1/2 UNC	3	3	1 3/4	3/8 X 3/16	1 3/4	3/8 X 3/16
1010	21 1/2	19 3/4	9 1/2	4 3/4	10 3/4	5 1/4	15	8	4	1/2 UNC	4	4	2	1/2 X 1/4	2	1/2 X 1/4

All Dimensions are in inches.

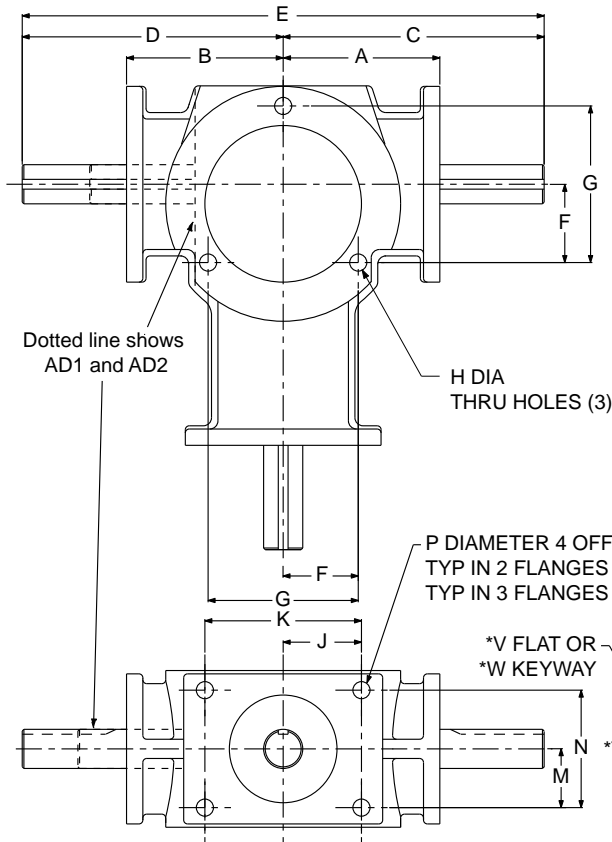
Other HUB CITY Products



Parallel Shaft Drives

These speed reducers provide you with nearly unlimited degree of flexibility. With up to 3 input modes to provide integration with hydraulic, electric or externally coupled drives. Reduction ratio's up to 70:1.

ALUMINIUM CASE, STAINLESS SHAFTS, SPIRAL BEVEL AND BALL BEARINGS



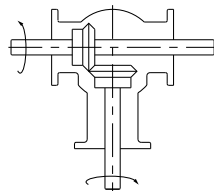
Models AD1 and AD2.



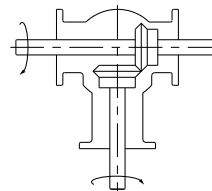
Models AD3 AD4 and AD5

Drawing is typical. Appearance will vary for each model. Dimensions shown are for reference only. Detailed Technical sheets are available for all models. *Dimensions typical all shaft extensions.

These gearboxes are presealed and are available from stock only in style AB.



A = Plan View.



B = Inverted View

So this unit is known as Style A B

MODEL	A	B	C	D	E	F	G	H	J	K	M	N	P	Q	R	S	T	V	W	X
AD1	1 3/8	31/32	1 31/32	1 9/16	3 17/32	21/32	1 5/16	13/64	19/32	1 3/16	7/16	7/8	11/64	2 5/32	19/32	2 3/4	3/8	1/32 Deep	0.47 Eff flat	1 1/4
AD2	2 1/8	1 9/32	3 5/8	2 25/32	6 13/32	15/16	1 7/8	17/64	15/16	1 7/8	11/16	1 3/8	17/64	3 1/4	1 1/2	4 3/4	5/8	-	3/16 X 3/32	2
AD3	3	3	5	5	10	1 1/2	3	21/64	1 1/2	3	1 1/8	2 1/4	21/64	5	2	3	3/4	-	3/16 X 3/32	3
AD4	1 3/8	1 3/8	1 63/64	1 63/64	3 61/64	21/32	1 5/16	17/64	19/32	1 3/16	7/16	7/8	11/64	2 5/32	19/32	2 3/4	3/8	1/32 Deep	0.47 Eff flat	1 1/4
AD5	2 1/8	2 1/8	3 5/8	3 5/8	7 1/4	15/16	1 7/8	17/64	15/16	1 7/8	11/16	1 3/8	17/64	3 1/4	1 1/2	2	5/8	-	3/16 X 3/32	2

Allowable Shaft Loads All Ratios and Shafts

Model No	Overhung Load**	Thrust Load
AD3	45 kgs	90 kgs
AD1 & AD4	11 kgs	22 kgs
AD2 & AD5	22 kgs	45 kgs

** Assumes load at midpoint of shaft extension

SPIRAL BEVEL GEAR DRIVES								
INPUT RPM	RATIO	OUTPUT RPM	AD1 & AD4		AD2 & AD5		AD3	
			INPUT kW	OUTPUT TORQUE	INPUT kW	OUTPUT TORQUE	INPUT kW	OUTPUT TORQUE
3600	1:1	3600	1.35	3.58	3.21	8.53	7.64	20.29
	2:1	1800	0.40	2.07	1.58	8.38	2.84	15.12
2400	1:1	2400	0.92	3.67	2.20	8.74	5.29	21.06
	2:1	1200	0.27	2.11	1.08	8.60	1.95	15.55
1750	1:1	1750	0.68	3.72	1.63	8.89	3.93	21.43
	2:1	875	0.19	2.13	0.80	8.72	1.46	15.93
1150	1:1	1150	0.45	3.77	1.10	9.07	2.65	22.01
	2:1	575	0.13	2.18	0.54	8.88	0.98	16.32
690	1:1	690	0.28	3.83	0.67	9.25	1.63	22.61
	2:1	345	0.08	2.20	0.33	9.04	0.60	16.74
100	1:1	100	0.04	4.02	0.10	9.69	0.25	24.05
	2:1	50	0.01	2.32	0.05	9.40	0.10	17.70

Model No	Ratio	Dry Wt Kg	Ordering Code
AD1	1:1	0.3	02/20/00201/003
	2:1	0.3	02/20/00203/003
AD2	1:1	0.9	02/20/00301/004
	2:1	0.9	02/20/00304/004
AD3	1:1	3.8	02/20/00403/005
	2:1	3.8	02/20/00404/005
AD4	1:1	0.3	02/20/05301/006
	2:1	0.3	02/20/05304/006
AD5	1:1	0.9	02/20/05401/007
	2:1	0.9	02/20/05404/007

MODEL 390 PTO Speed Changer - Part No 02/20/06208/390

ADAPTS UP TO 125 HP TRACTOR TO ALL PTO OPERATED FIELD EQUIPMENT

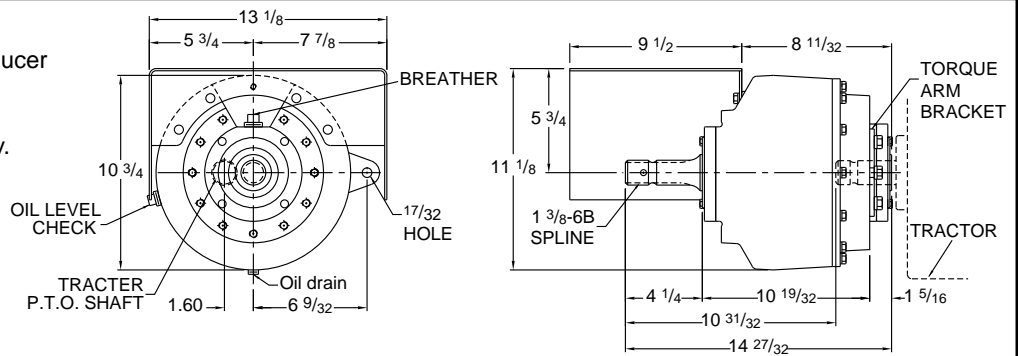
FEATURES

- Unit takes input horsepower up to 125 @ 1000 RPM.
- Alloy Steel, heat treated gears don't shy away from jolts and shock loads.
- Rugged, cast iron housing protects the unit for long, trouble free service.
- Tapered roller bearing give quiet performance and long life.
- Double lip, spring loaded seals keep lubricant where it belongs.
- Alloy shaft and spline sleeve add to strength and dependability.
- Unit minimizes PTO shaft overhung load and drive line angularity.
- Easily installed and removed.
- Safety shield included.
- Permanently lubricated at factory.
- Minimum offset between tractor PTO and speed changer extension minimizes drive line adjustment.



TECHNICAL SPECIFICATION

- Ratio 1.89:1 Reducer
- Tractor RPM 1000
- Drive line RPM 540
- Female spline 1 3/4"-20 Inv.
- Male spline 1 3/8 - 6B
- CD Centre distance ... 1.60"
- Weight 110Lbs

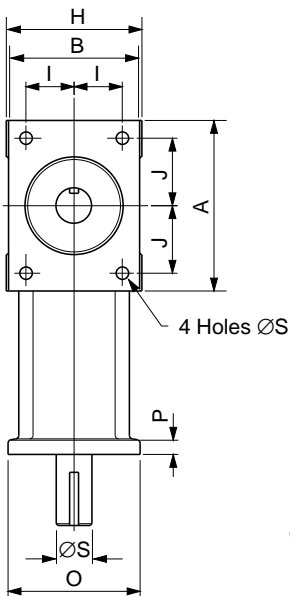


IMPORTANT: The Model 390 Speed Changers can be mounted on most tractor PTO shafts, however, they cannot be mounted on tractors that do not have detachable PTO shields. Units must be used in an approved mounting position with the torque arm bracket also in an approved position otherwise excessive side loading will be exerted on the tractor PTO shaft. The torque arm must always be positioned at 90° to the torque arm bracket.

MODEL DZ1, DZ2 & DZ3

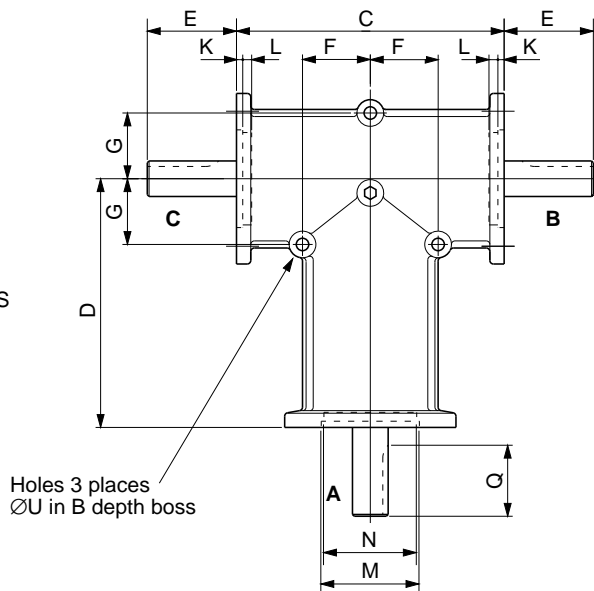
DZ1

Ratio - 1:1
Housing - Aluminium
Part No. DZ11-3FABC



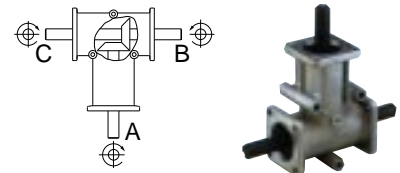
DZ2

Ratio - 1:1
Housing - Aluminium
Part No. DZ21-3FABC



DZ3

Ratio - 1:1
Housing - Aluminium
Part No. DZ31-3FABC



Speed RPM	DZ 1 Ratio 1:1		DZ 2 Ratio 1:1		DZ 3 Ratio 1:1	
	Output torque Nm	Input power kW	Output torque Nm	Input power kW	Output torque Nm	Input power kW
50	4.7	0.026	16.5	0.093	50.5	0.28
100	4.2	0.047	14.5	0.162	44.0	0.49
200	3.7	0.082	12.6	0.280	38.0	0.85
300	3.4	0.113	11.6	0.386	34.7	1.15
400	3.2	0.142	10.6	0.470	32.5	1.44
600	2.9	0.195	10.0	0.665	29.7	1.98
800	2.7	0.242	9.6	0.847	28.4	2.5
1000	2.6	0.287	9.2	1.014	27.1	3.0
1200	2.5	0.331	8.9	1.177	26.2	3.47
1400	2.4	0.368	8.6	1.320	25.2	3.87
1600	2.3	0.407	8.3	1.455	24.3	4.26
1800	2.3	0.442	8.0	1.571	23.5	4.61
2000	2.2	0.476	7.9	1.723	22.8	4.98
2500	2.1	0.556	7.8	2.105	21.3	5.75
3000	2.0	0.632	7.7	2.494	20.2	6.54

Rating are based on 12 hours/day operation with uniform loading. For other service factor consult our sales office

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	S	ØU	Shaft	Key	Weight
DZ1	40	32	68	60	15	16	16	33	11	15	2.5	-	22	-	32	5	-	4.2	5.2	Ø 8	-	0.3
DZ2	66	50	104	90	35	24	24	52	18	26	5	-	35	-	50	7	27	6.2	8.3	Ø 15	5	1.1
DZ3	96	74	150	140	50	38	38	76	27	38	3.5	5	55	52	74	8	40	8.3	8.3	Ø 20	6	3.4



AFTERMARKET SERVICES FOR THE REPLACEMENT PARTS INDUSTRY



MANUFACTURERS OF REPLACEMENT COMPONENT PARTS FOR AUTOMOTIVE, TRACTOR, OFF-ROAD, MINING EQUIPMENT ETC.

The after market service division provides batch manufacture of components for the replacement parts industry. Items include transmission components for tractors, four wheel drives, classic automobiles and motor cycles, harvesters and road machines. We also supply special couplings and replacement pump or motor shafts for the fluid power industry. Replacement parts can be made from samples or drawings. The facility at Ballina includes modern 4 axis CNC machining capacity, production milling, gear hobbing, spline hobbing, gear shaping, spline shaping, broaching of splines and keyways, key seating, heat treatment and CNC drilling.



MORI SEIKI SL25SY 1000 CNC turning and milling centre

COMPLEX MACHINING OPERATIONS AT LOW COST

Our machining capacity includes the Mori Seiki SL25SY turning centre shown at left. This machine is equipped with a sub-spindle for second operation chucking. In addition to a C, Z, and X axis the machine is one of the first of its type in Australia equipped with a Y axis for drilling tapping or milling across a work piece. As many as 12 drilling milling or tapping stations can be fitted to the machine. This machine is also equipped with an automatic bar feed with a capacity of 65mm material. Turning to one metre length can also be accommodated.

The capacity and versatility of our machines enables work pieces of considerable complexity to be produced complete in one or two operations where previously 8 to 10 operations would be required. Such versatility permits considerable reduction in cost while maintaining a high degree of quality and accuracy.

PRODUCTION OF SPLINED COMPONENTS IS OUR SPECIALITY

We are specialists in the production of splined components. External splines are produced either on our hobbing machines or gear shapers. We have the largest individual range of external splined hobs and external spline shaper cutters in the southern hemisphere.

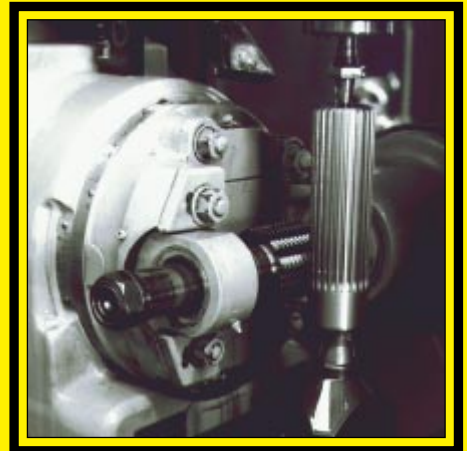
Internal splines are produced either by broaching or by gear shaping. We have a very extensive range of broaches and internal shaper cutters for imperial and metric involute splines as well as a large range of tools for the production of straight sided splines.

PRODUCTION OF GEARS

We manufacture external and internal spur and helical gear components for a wide range of applications and have available a large range of hobs for gears and sprockets. External and internal gear shaper cutters are also available for the generation of gears by the gear shaping method. Gear tooth rounding is also carried out at our facility.

EXTERNAL AND INTERNAL KEYWAYS

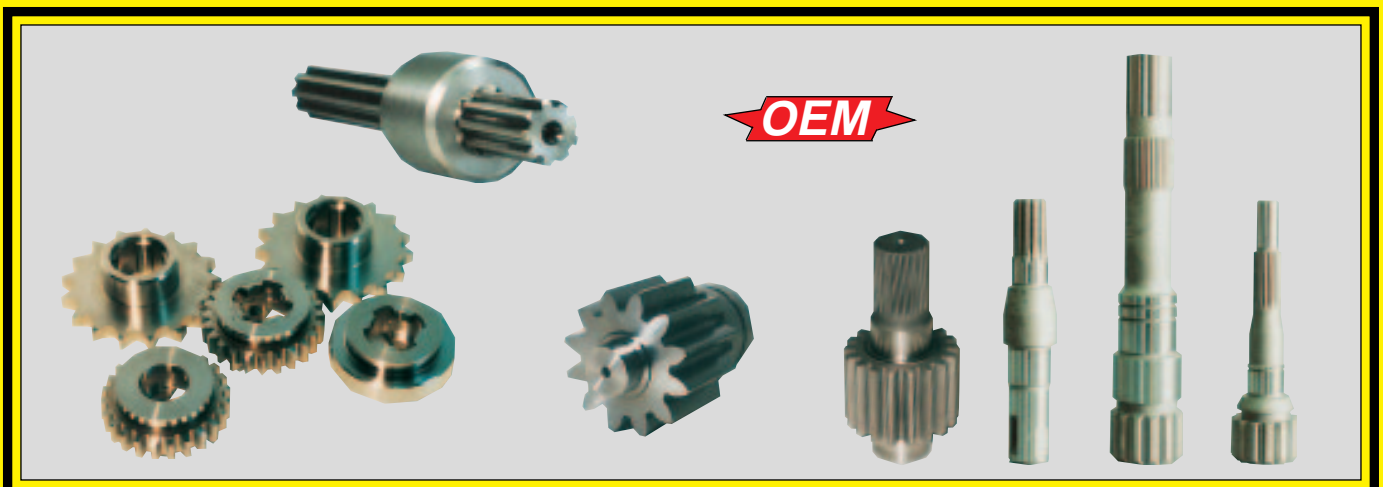
Our facilities include capacity for high volume production of external keyways by several methods including the ability to provide very accurate width and depth tolerances in any size to 1" width. We also have extensive production keyway broaching capacity up to 16mm key width.



Spline cutting on splined shafting using our vertical hobbing machine

QUALITY ASSURANCE . OEM DYNAMICS Manufacturing Division has Quality Assurance accreditation to the requirements of AS3902/ISO9002 certificate no. MEQ 0942414. The assessor is Lloyds Register.

SOME CUSTOMER COMPONENTS MANUFACTURED BY OEM DYNAMICS



Heat Transfer Products

Air Cooled Versacool

DC Electric Drive - Available in 5 Basic models with 19 different electric motor variants in 12 or 24 Volt. New long life water resistant fan motors in regular or high performance types. Three types of cooling elements with operating pressure to 14 Bar. Rated to 0.5 kW/°C ETD, flows to 150 l/min.

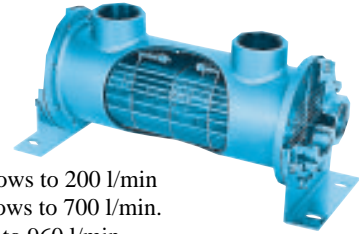
SAMS AC Electric Drive - Available in 7 basic models with 26 different motor variants in 50 or 60 Hz options. Voltages from 240 through to 450. New **SAMS** (Superior Air Management System) design on AC electric models delivers more air flow resulting in greater performance. Rated to 0.8 kW/°C ETD, flows to 200 l/min.



Shell & Tube Heat Exchangers

Large range of standard and extended surface models for cooling fluids with water.

EKM - Rated to 200 kW. Oil flows to 200 l/min
ECM - Rated to 400 kW. Oil flows to 700 l/min.
B - Rated to 370 kW. Oil flows to 960 l/min.



Air Cooled

S & ST Special Application

Currently available in three models. ST series feature heavy duty cooling elements with steel fins, rectangular steel tanks and copper tubes for high pressure low air side clogging applications or for the special requirements of underground coal mines. Available with standard or antistatic fans and flame proof electric motors for intrinsically safe applications.

Rated to 2 kW/°C ETD, flows to 540 L/min.



Water Cooled DOC™ Series Braze Plate Heat Exchangers

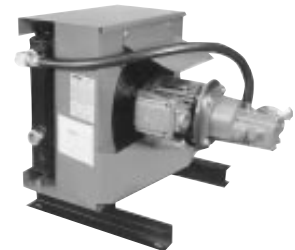
- Purposely designed for oil cooling using water
- Extremely high cooling efficiency, low water usage
- Very compact design with female BSPP ports
- Support bracket included with all ex-stock units
- 3-year material parts guarantee
- All stainless steel brazed construction (incl. bracket)
- Titanium plate and gasket units are available for sea water & other dirty water applications

Heat dissipation to 210kW at oil flow of 400l/min



Air Cooled Series A2000P with Co-Axial Oil Pump

Developed for cooling gear drives. The pumps provided are high suction types intended for use with gear or hydraulic oils. A common application in hydraulics is cylinder circuits where it is not usually appropriate to pass the on line circuit through the cooler due to possibility of spikes.



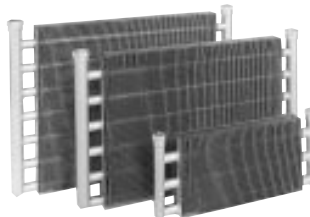
Rated to 1.4 kW/°C ETD
Flows to 125 L/min.

Mobile Equipment Oil Coolers

These unit are for use on mobile equipment in rough off road applications and in high pressure situations.

Light duty - with aluminium or steel fins and copper tanks.

Heavy duty - with steel fins & square section steel tanks.
Optional full flow relief valves for improved safety.



Air Cooled Series A 2000 Aluminium High Performance

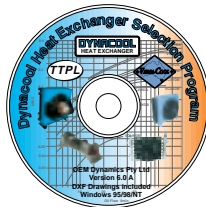
25 years in the field with over 30 standard model variants. Corrosion resistant high performance Albraze cooling element. Heavy duty zinc seal powder coated casings for excellent appearance and durability. Available in most voltages in 50 and 60 cycles as well as 12 and 24 volt DC or with hydraulic motor drive. Also available for air intercooling applications. Core skirts on all models. Core guards on larger models.



Rated to 9.0 kW/°C ETD
Flows to 800 L/min.

DYNACOOOL CD

The latest version of our Dynacool heat exchanger selection program now provides quick and accurate selection of most of our standard models of air cooled package exchangers, mobile air cooled and water cooled models. A new easy find instruction manual is now also available.



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