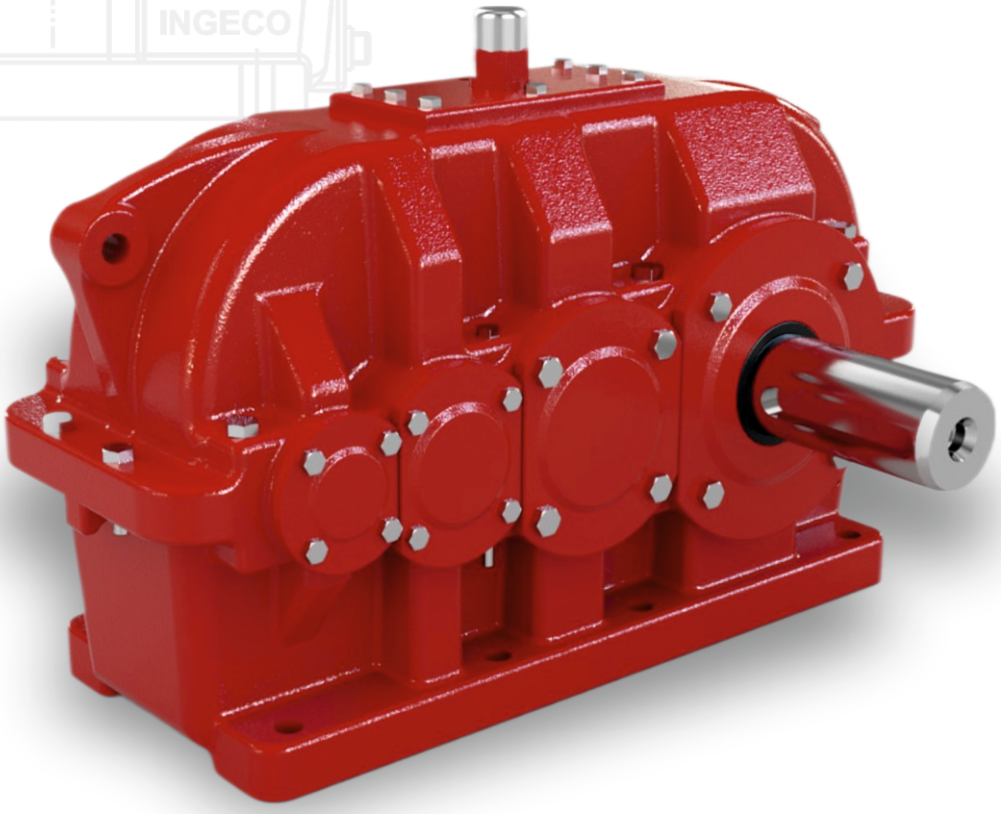
INGECO

The Complete Drive Technology

PARALLEL SHAFT HELICAL GEARBOX



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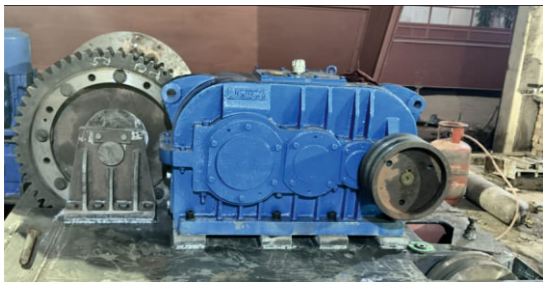
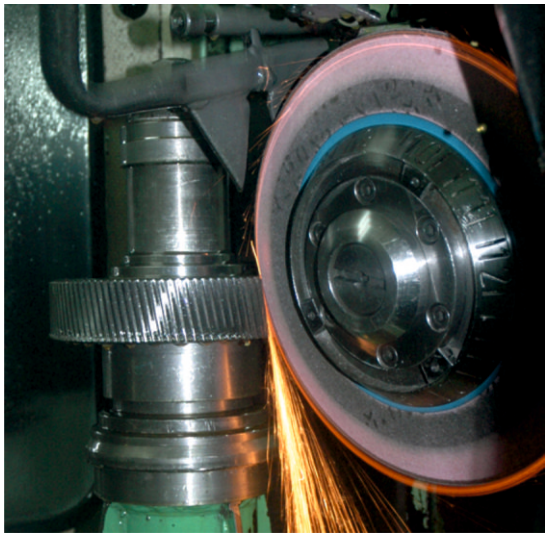
DRIVE PROBLEMS TACKLED WITH

INGECO





INGECO PLANT IN AHMEDABAD

INGECO's modern plant is situated in Ahmedabad city of Gujarat state in India. The plant is on a sprawling land of 1,00,000 Sq. Ft. with factory area of 15,000 Sq. Ft. and office building of 4500 Sq. Ft.

INGECO Gears Pvt. Limited
General Technical Characteristics of INGECO make Parallel Shaft Helical Gearboxes

Modular Design

INGECO Gearboxes are based on modular design and construction. The Gear sizes, transmission ratios and main dimensions according to standard series of numbers. This helps to maintain interchangeability of gears and hence faster delivery, and also reducing inventory for our customers. INGECO gearboxes are designed for low weight, compactness, easy servicing, and high efficiency owing to its case hardened gears and shafts. Internal gear design are based on latest computer software and advanced CAD facilities. INGECO Gearbox design conforms to International quality standards of DIN and AGMA.

1 Housing: Heavily ribbed Housing ensures exceptional rigidity of complete gearbox in addition to providing adequate area for heat dissipation. Silent and Vibration free operation, High precision with CNC machines and Optimum weight are other advantages.
2 Gears: Helical Gears used for reduced noise are case hardened and ground with CNC machines. For high load carrying capacity profile corrections are applied on tooth profiles.

Some of the Special Features of INGECO Gearboxes

1 Gear design done by using latest Gear design software.
2 Specially arranged internal lubrication system provides adequate lubrication to bearings to ensure long life.
3 Use of standard make anti friction bearings to ensure number of years of trouble free operation
4 Special oil seals are used to ensure adequate prevention of dust impregnation even in dusty atmosphere and prevention of oil leakages as well.
5 Gearboxes available with Solid output shaft as well as Hollow shaft with Keyway or Spline.
6 Units available with Water cooling arrangement. (Contact INGECO for dimensions and details)

Data required for Enquiry of INGECO Gearbox

Criteria	Selection Help
Prime Mover	Please specify the type of Prime mover for eg: Electric motor/DC motor or engine.
Input RPM	In case of DC motor mention complete range of RPM
Motor Rating in Kw	Please mention motor rating in Kw or H.P.
Starting torque of motor	For most application 2 is considered to be adequate
Output Rpm / Ratio	Mention either the output Rpm required from the Gearbox or the Ratio if known.
Type of Gearbox	Options are Helical, Bevel – Helical
Application	Please refer to Table – I for selection
Application duty	Refer table – II for reference
Motor Rotation	Direction of rotation of motor as either clockwise, anti clockwise or bi directional
Holdback	If required kindly mention.
Environment	Mention where the gearbox will be installed eg: in open, underground, covered area , dusty atmosphere etc
Operating hours / day	Approx. hours of operation of the machine/equipment to which INGECO gearbox will be installed
No of starts/ Hour	How many starts per hour.
Output Shaft Position	As viewed from input side the output shaft lies on the right hand side or left hand side.
Output Shaft Type	The options are solid single sided, Solid double sided, Hollow shaft with keyway or spline, hollow shaft with shrink disc etc.
Input shaft	The options are solid single sided or solid double sided

Selection method

1. Determine the power demand for your requirement. Say for example the Motor required is a 100 Kw motor with 1500 rpm. Therefore Power demand (P_d) is 100 Kw and input Rpm (n_1) is 1500.

2. Determine the output Rpm (n_2) required, thus the ratio (I_n) required is $n_1 \div n_2$. For this example the output Rpm is 30 and therefore the ratio is 1500 ÷ 30 = 50 (50:1)

3. Studying Table I select the closest application and type of load rating. For this example the gearbox is required for conveyors for handling ore (bulk material) and hence referring to Table I the load rating is Medium duty i.e. M

4. As the conveyor needs to be operated for 20 hours continuously everyday. Considering this data the service factor f is determined from Table II as 1.5

5. As the conveyor is started only once in 20 hours the number of starts is less than one per hour, thus the starting frequency factor f_2 determined from table III as 1.0

6. Effective safety factor f is $f_1 \times f_2 = 1.5 \times 1 = 1.5$

7. Thus the Minimum required nominal gearbox rating P_{min} expressed in Kw = $P_d \times f = 100 \times 1.5 = 150$ Kw

8. Referring to the table for Schematic view of INGECO Gearboxes the ratio of 50 needs a triple reduction gearbox. Looking to the installation site either a helical or bevel helical gearbox is selected. Say if the motor need to be mounted parallel to the output shaft the selected type of gearbox is Helical Triple reduction gearbox

9. Now the selection for output shaft type is done which is either a hollow or solid output shaft. Let the solid shaft be selected and with reference to Schematic view table the ICN Gearbox is selected.

10. Referring to selection table for ICN and the input RPM and a minimum rated power of 150 Kw the gearbox size is ICN 355 as this gearbox has a nominal rating (P_{no}) of 205 Kw. i.e. P_{no} = Pmin calculated in Para 7

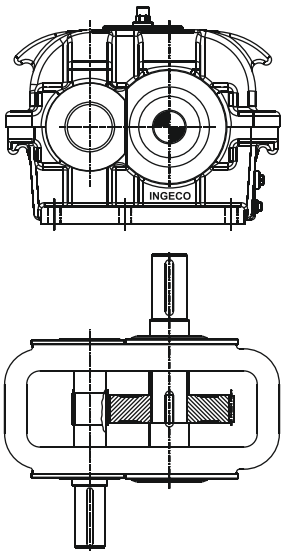
Operating factors

Table I Load parameters listed by applications and industries

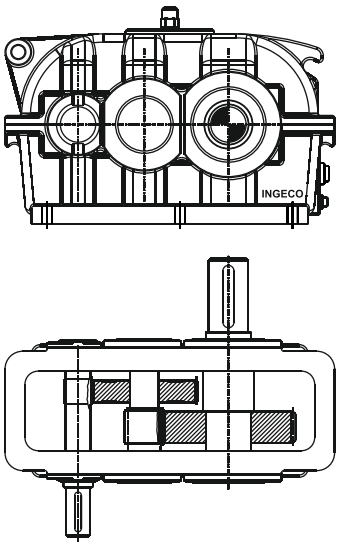
Driven Machines		Driven Machines		Driven Machines	
Blowers, Fans Ventilators		**Conveyors**		**Metal Rolling mills**	
Axial & Radial Blowers	M	Assembly line conveyors	M	Billet shears	H
Rotary Piston Blowers	M	Apron conveyors	M	Bloom pushers	XH
Large Ventilators(mining)	M	Ballast elevators	M	Bloom conveying plant	H
Cooling tower fans	M	Band conveyors	M	Chain transfers	M
Induced draft fans	M	Belt conveyors(bulk material)	M	Cold rolling mills	H
Impeller blowers	U	Belt conveyors(piece goods)	H	Continuous casting plant	H
Turbo blowers	U	Bucket conveyors	U	Cooling troughs	M
Centrifugal blowers	U	Bucket belts	M	Cropping shears	H
		Chain conveyors	U	Cross transfers	M
Mining, Rock, Earth		Circular conveyors	M	Descaling machines	H
Briquetting presses	XH	Conveyor winders	M	Heavy & medium plate mills	H
Clay mixtures	M	Goods lifts	M	Ingot & Blooming mills	H
Concrete mixtures	M	Hoists	H	Ingot Handling machinery	H
Crushers	H	Inclined lifts	H	Ingot pushers	H
Hoists	M	Link conveyors	M	Manipulators	H
Pneumatic Sifters	M	Overhead conveyors	U	Plate shears	H
Rotary Kilns	H	Passenger lifts	M	Plate tilters	M
Road Construction machinery	M	Roasting furnace conveyors	U	Pipe welding machines	H
		Shaker conveyors	M	Pipe drawing machine	H
Chemical Industry		Screw conveyors	M	Reels(strips)	M
Agitators (pure liquids)	U	Steel belt conveyors	M	Reels (wire)	M
Agitators(liquids & Solids)	M	Worm conveyors	M	Roller adjustment device	M
Centrifuges (heavy)	M			Roller straighteners	M
Centrifuges (light)	U	**Food Industry Machinery**		Roller tables(heavy)	H
Rotary drying kilns	M	Bottling & container filling m/c	U	Roller tables(light)	M
		Cane crushers	M	Sheet mills	H
Compressors		Cane knives	M	Shifting device	H
Rotary Piston Compressors	H	Cane mills	H	Traverse tractors	M
Centrifugal Compressors	M	Kneading machines	M	Walking beam conveyors	M
Turbo Compressors	M	Crystallizers	M	Wire shears	M
		Packaging machines	U	Winding machines(strip &wire)	M
Metal Working machines		Sugarcane cutters	M	Winding tractors	M
Counter Shafts, line shafts	U	Sugar beet cutters	M	Wire drawing benches	M
Crank presses	H	Weighing machines	M		
Folding presses	H				
Forging presses	H	**Generators, Transformers**		**Oil and Petroleum Industry**	
Hammers	H	Frequency Transformers	H	Drilling pumps	H
Machine tools, auxiliary drives	U	Generators	H	Rotary kilns	M
Machine tools, main drives	M	Welding generators	H	Filter presses	M
Metal planning machines	H			Pipeline pumps	M
Plate straightening machines	H	**Mills**		Scavenging pumps	M
Presses	H	Hammer mills	XH		
Punch presses	H	Edge Mills	XH	**Paper machines**	
Shearing machines	M	Ball Mills	XH	Calenders	M
Shear metal bending machines	M	Pendulum mills	XH	Couchers	H
		Impact mills	XH	Drying Cylinders	H
Cranes		Tube mills	XH	Glaying cylinders	H
Jib Cranes	M	Beating mills	XH	Pulpers	H
Hoist Gears	U	Rod mills	XH	Pulp grinders	H
Luffing Gears	U	Roller mills	XH	Suction rolls	H
Slewing Gears	M			Suction presses	H
Traveling gears	H	**Plastic Machines**		Wet presses	H
Winches	U	Calenders	M	Willows	H
		Crushers	M		
Rubber Machines		Extruders	M	**Pumps**	
Calenders	M	Mixtures	M	Centrifugal pumps (light liquids)	U
Extruders	H			Centrifugal pumps (semi liquids)	M
Mixtures	M	**Textile machines**		Piston pumps	H
Pug mills	H	Batchers	M	Plunger pumps	H
Rolling mills	H	Looms	M	Pressure pumps	H
		Printing & Dyeing machines	M	Sand Pumps	M
Stone & clay working machines		Tanning vats	M		
Ball mills	H	Willowing machines	M	**Wood working machines**	
Beater mills	H	Tan-Liquor vessels	M	Barkers	H
Breakers	H	Bobbin winding machines	M	Decorticating drums	H
Brick presses	H			Planing machines	M
Hammer mills	H	**Iron and Steel Industry**		Saw frames	M
Rotary ovens	H	Foundry Crane(Hoisting gear)	H	Wood working machines	U
Tube mills	H	Converters	H		
		Slag cars	U		
Laundries		Sintering belts	M	**Load parameters**	
Tumblers	M	Crusher	XH		
Washing machines	M	Torpedo mixers	H	U = Light / Uniform Load	
				M = Medium Load	
Water Treatment				H = Heavy Load	
Aerators	M			XH = Extra heavy Load	
Screw Pumps	M				

Schematic view of INGECO Gearbox

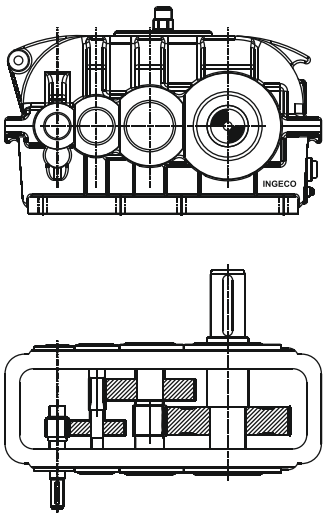
SINGLE
REDUCTION
HELICAL GEAR BOX
IAN
In:- 1.4 to 6.3



DOUBLE
REDUCTION
HELICAL GEAR BOX
IBN / IBH
In:- 6.3 to 22.4



TRIPLE
REDUCTION
HELICAL GEAR BOX
ICN / ICH
In:- 14 to 112



QUADRUPLE
REDUCTION
HELICAL GEAR BOX
IDN / IDH
In:- 112 to 630

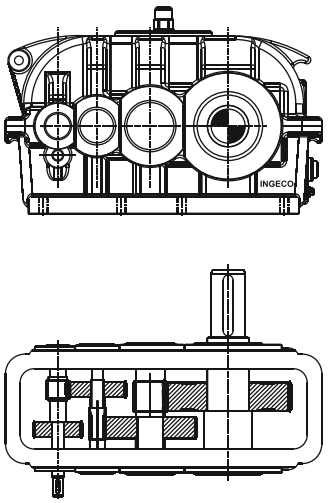
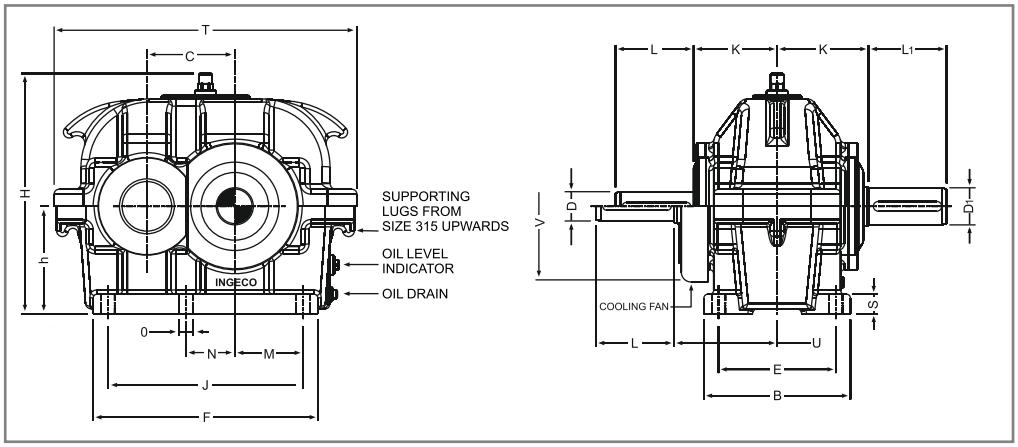


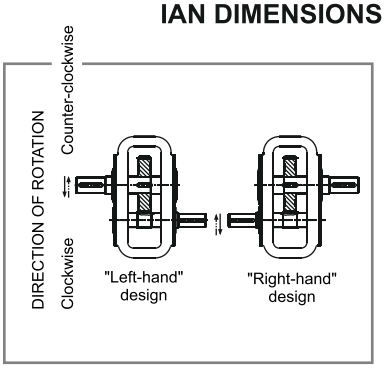
Table – II	Service factors				f_1
Type of Prime mover	Hours of operation /day	Load symbol for driven machine			
		U	M	H	XH
Electric motors, turbines, hydraulic motors, D.C. Motors	Up to 3	0.80	1	1.5	2.0
	Above 3 to 10	1	1.25	1.75	2.25
	Above 10 to 24	1.25	1.5	2.0	2.5
Piston engines, 4-6 cyllinder, Cyclic variation >1:100 – 1:200	Up to 3	1	1.25	1.75	2.25
	Above 3 to 10	1.25	1.5	2.0	2.5
	Above 10 to 24	1.5	1.75	2.25	2.75
Piston engines, 1-3 cylinders, cyclic variation < 1:100	Up to 3	1.25	1.5	2.0	2.5
	Above 3 to 10	1.5	1.75	2.25	2.75
	Above 10 to 24	1.75	2	2.5	3.0

Table - III	Starting Frequency factor					f_1
Number of starts per hour	Driven machine service factor f_1					
	= 1	= 1.25	= 1.4	= 1.6	= 1.8	= 2.0
1	1.0	1.0	1.0	1.0	1.0	1.0
2 to 20	1.2	1.1	1.08	1.07	1.07	1.06
21 to 40	1.3	1.2	1.17	1.16	1.15	10.8
41 to 80	1.5	1.4	1.25	1.23	1.18	1.1
81 to 160	1.6	1.5	1.35	1.3	1.2	1.1
161 to 320	2.0	1.8	1.7	1.6	1.5	1.4
Above 320	2.5	2.25	2.0	1.9	1.8	1.75



INGECO GEARBOX

IAN DIMENSIONS



Size of Gear unit IAN	Input Shaft						Output Shaft		DIMENSIONS (MM)													FAN COOLING		Weight in KGS	OIL QTY [LITRES]
	In=3.15		In>3.15 upto 5		In>5																				
	D	L	D	L	D	L	D1	L1	C	F	B	E	h	H	T	J	K	O	M	N	S	U	V		
80	25	60	20	50	--	--	32	80	80	215	140	110	100	245	280	175	90	14	60	---	21	190	182	20	0.9
90	30	80	25	60	--	--	38	80	90	240	150	120	110	265	310	200	95	14	70	---	21	200	182	30	1.2
100	25	80	30	80	20	50	45	110	100	270	155	125	125	290	340	220	100	14	75	---	26	205	182	40	1.5
110	45	110	35	80	25	60	48	110	110	300	170	140	140	325	370	250	105	14	85	---	26	210	232	60	2
125	50	110	40	110	30	80	55	110	125	340	185	155	160	360	420	290	115	14	100	---	26	220	232	70	2.5
140	55	110	45	110	35	80	60	140	140	375	200	160	180	415	460	615	125	14	110	---	36	225	302	102	3.3
160	60	140	50	110	40	110	70	140	160	420	230	190	200	455	520	350	135	18	120	---	36	235	302	130	4.3
180	70	140	55	110	45	110	80	170	180	480	250	210	225	510	560	410	150	18	145	---	36	245	302	180	6.8
200	75	140	60	140	50	110	90	170	200	530	270	220	250	555	640	450	160	23	155	---	42	265	382	230	9
225	85	170	70	140	55	110	100	210	225	600	290	240	280	610	710	520	175	23	180	---	47	275	382	327	13
250	95	170	80	170	60	140	110	210	250	660	325	265	315	675	790	570	185	27	195	---	52	300	533	423	17
280	105	210	90	170	70	140	120	210	280	725	350	290	355	740	880	630	200	27	215	150	57	315	533	580	23
315	115	210	95	170	80	170	140	250	315	810	390	315	400	820	975	705	215	33	240	175	63	340	653	770	33
355	130	250	110	210	90	170	160	300	355	915	400	325	450	910	1100	810	235	33	280	195	70	355	653	1037	45

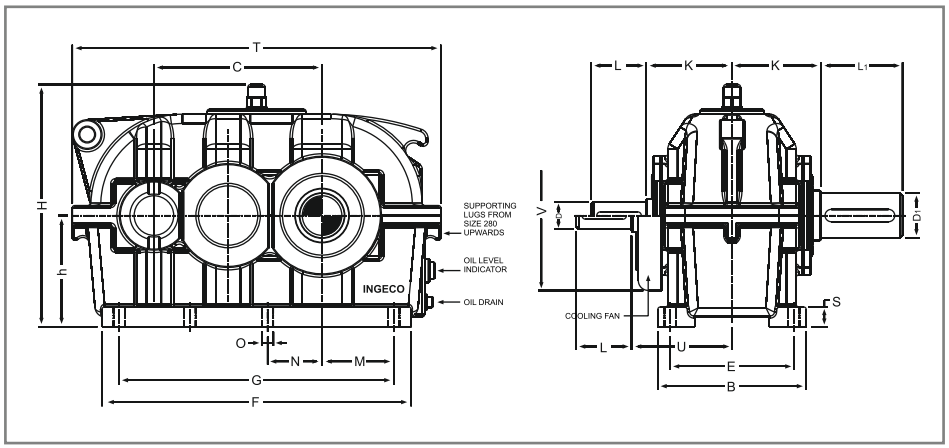
Larger Gearbox Sizes of this design on enquiry.
Details of cooling system will be provided on request wherever required
Above dimensions are not binding. Get certified drawings from INGECO for installation

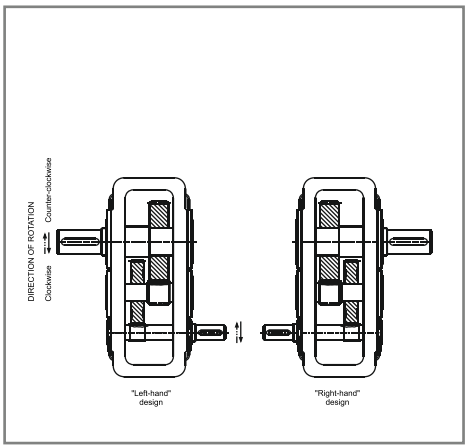
IAN POWER RATINGS

Nominal Ratio, In	Nominal Speed (rpm)		Size of Gear unit													
			IAN 80	IAN 90	IAN 100	IAN 110	IAN 125	IAN 140	IAN 160	IAN 180	IAN 200	IAN 225	IAN 250	IAN 280	IAN 315	IAN 355
	n1	n2	Nominal Gear Box Power Ratings Pn (Kw)													
1. 4	1500	1071	60	95	115	150	215	300	390	500	695	950	1300	1900	2540	3400
	1000	714	45	67	85	110	165	230	295	375	525	695	992	1402	1809	3682
	750	536	30	50	68	85	130	172	240	298	401	592	850	1165	1496	2098
1. 6	1500	940	54	80	102	130	190	240	318	399	560	755	1110	1504	2070	2800
	1000	625	37	57	75	99	140	190	240	296	405	560	805	1105	1480	2150
	750	470	28	45	60	75	112	150	200	243	310	460	665	910	1200	1600
1. 8	1500	835	48	70	93	115	170	220	300	359	505	695	1000	1420	2000	2700
	1000	555	34	50	67	90	130	170	230	268	375	525	750	1035	1410	1900
	750	415	27	39	54	70	104	140	190	222	285	431	612	845	1125	1500
2	1500	750	40	61	81	110	159	210	279	344	485	635	950	1310	1825	2500
	1000	500	29	45	59	80	115	160	209	253	355	480	700	950	1325	1750
	750	375	22	36	45	63	92	130	176	211	270	395	580	780	1035	1400
2. 24	1500	670	40	55	72	100	143	190	258	315	450	603	895	1200	1650	2300
	1000	445	27	39	51	70	108	145	198	240	304	456	655	900	1225	1680
	750	335	20	29.5	40	55	87	115	164	195	245	365	535	740	975	1300
2. 5	1500	600	33	50	61	82	131	180	237	295	405	555	525	1120	1500	2100
	1000	400	22	35	45	58	102	135	177	225	285	417	625	830	1125	1500
	750	300	18	26	34	45	81	110	149	185	235	342	504	675	920	1220
2. 8	1500	535	28	44	51	70	121	170	216	270	375	500	755	1005	1350	1900
	1000	360	20	32	36	50	88	125	166	205	265	380	565	755	1010	1375
	750	270	17	22	30	39	67	98	137	170	215	310	466	615	830	1100
3. 15	1500	475	25	35.5	50	68	98	151	198	245	335	470	682	925	1275	1700
	1000	315	16.5	26	35	47	70	113	148	185	240	360	510	695	930	1245
	750	235	14	18.5	28	38	50	86	117	155	195	295	410	575	760	1000
3. 55	1500	425	21	31	45	62	95	130	193	245	334	460	680	925	1240	1550
	1000	280	14	22	33	45	67	93	137	185	226	355	460	640	900	1180
	750	210	11	17	26	33	49	73	106	154	180	277	380	560	715	970
4	1500	375	17	25	38	55	82	112	171	211	310	459	640	860	1235	1400
	1000	250	12.5	17	26	39	59	80	113	145	216	355	455	610	880	1100
	750	187	10	14	20.5	28.5	45	60	88	115	172	270	355	500	675	850
4. 5	1500	335	16	19	35	41	60	80	152	200	271	380	540	790	1120	1270
	1000	220	11.5	13.5	23	29	44	59	102	144	186	260	380	570	830	970
	750	166	8	11	19	23	34	48	79	110	148	199	296	435	630	790
5	1500	300		17	30	38	55	78	135	144	225	382	480	670	1020	1120
	1000	200		13	21	27	40	56	91	102	150	260	350	475	710	855
	750	150		10	16	21	31	45	70	78	110	198	267	365	550	700
5. 6	1500	270			25	34	45	72	108	133	203	315	415	570	870	1025
	1000	180			17	23	32	51	78	93	145	217	285	415	595	770
	750	134			14	18	25	40	56	70	105	156	215	310	440	614
6. 3	1500	240				27	44	60	85	125	155	240	350	500	725	945
	1000	160				18	31	45	63	85	110	171	230	355	485	705
	750	120				14	24	36	46	65	88	130	175	275	360	540

Note: It is always necessary to check for thermal capacities of the Gearbox at higher output speeds and higher Ratings. Contact INGECO for any type of cooling required.

INGECO GEARBOX IBN DIMENSIONS





Size of Gear unit IBN	Input Shaft						Output Shaft		DIMENSIONS (MM)													FAN COOLING		Weight in KGS	OIL QTY [LITRES]
	In=12.5		In>12.5 upto 20		In>20																				
	D	L	D	L	D	L	D1	L1	C	F	B	E	h	H	T	K	O	M	N	S	G	U	V		
110	25	60	20	50	–	–	48	110	190	360	180	150	125	315	430	110	14	80	60	26	310	215	182	60	3
125	30	80	25	60	–	–	55	110	215	405	200	170	140	345	475	120	14	95	75	26	355	225	232	80	4
140	35	80	30	80	20	50	60	140	240	450	220	190	160	385	530	135	14	110	85	32	400	235	232	115	5
160	45	110	35	80	25	60	70	140	270	510	250	210	180	435	590	145	18	115	95	36	440	245	302	150	6
180	50	110	40	110	30	80	80	170	305	575	270	230	200	480	665	160	18	135	105	36	505	255	302	210	9
200	55	110	45	110	35	80	90	170	340	635	300	250	225	525	745	175	23	145	110	42	555	280	282	275	12
225	60	140	50	110	40	110	110	210	385	715	320	270	250	575	825	190	23	165	125	47	635	290	282	365	16
250	70	140	55	110	45	110	110	210	430	795	370	310	280	650	925	210	27	180	135	52	705	315	282	495	20
280	75	140	60	140	50	110	120	210	480	885	400	340	315	695	1035	230	27	200	155	57	785	345	532	680	30
315	85	170	70	140	55	110	140	250	540	985	450	380	355	790	1145	260	33	220	185	63	875	370	532	915	40
355	95	170	80	170	60	140	160	300	605	1095	480	410	400	870	1265	285	33	245	205	68	975	405	653	1240	62
400	105	210	90	170	70	140	170	300	680	1225	530	460	450	965	1425	305	33	280	230	73	1105	430	653	1685	87

Larger Gearbox Sizes of this design on enquiry.
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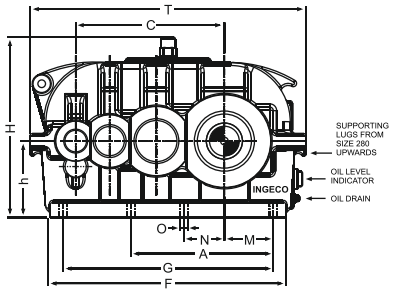
Above dimensions are not binding. Get certified drawings from INGECO for installation

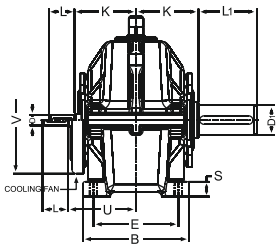
IBN POWER RATINGS

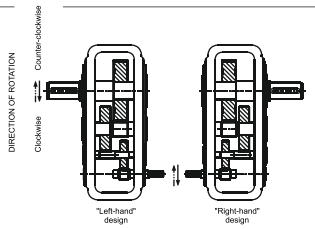
Nominal Ratio, In	Nominal Speed (rpm)		Size of Gear unit											
	n1	n2	IBN 110	IBN 125	IBN 140	IBN 160	IBN 180	IBN 200	IBN 225	IBN 250	IBN 280	IBN 315	IBN 355	IBN 400
			Nominal Gear Box Power Ratings Pn (Kw)											
6. 3	1500	240	40	56	78	112	155	220	296	385	550	795	1060	1450
	1000	160	27	39	52	75	110	152	221	290	415	565	810	1100
	750	120	20	29	40	58	80	117	175	235	320	430	610	900
7.1	1500	210	40	52	70	104	149	204	289	380	505	735	995	1350
	1000	140	26	36	50	70	98	143	206	260	375	495	730	1000
	750	105	19	27	36	55	76	108	155	215	290	375	550	790
8	1500	188	36	48	67	95	131	191	261	356	460	665	930	1310
	1000	125	25	33	45	65	90	130	185	252	345	455	690	960
	750	94	18	25	35	51	71	97	140	195	260	350	520	720
9	1500	167	33	45	60	88	136	190	230	325	460	590	830	1100
	1000	111	22	30	41	59	81	128	165	220	335	440	630	800
	750	83	16.5	23	32	46	70	95	130	175	240	345	505	650
10	1500	150	30	40	56	78	108	160	215	285	400	550	770	1060
	1000	100	21	28	35	52	75	98	150	200	275	370	550	760
	750	75	15	20	27	40	56	82	115	160	220	290	420	600
11.2	1500	134	25	35	49	70	98	144	185	255	340	485	685	905
	1000	89	17	25	34	48	67	97	135	180	250	365	505	685
	750	67	12	18	25	37	51	75	100	135	190	275	400	505
12.5	1500	120	24	33	46	61	85	118	177	230	330	435	645	860
	1000	80	16	23	31	42	56	81	120	170	225	305	455	610
	750	60	11	17	23	31	43	63	90	130	170	230	335	460
14	1500	107	21	30	39	52	72	105	155	212	285	390	560	715
	1000	71	14	20	28	35	48	75	109	151	200	270	400	520
	750	53	10	14	20	26	36	57	82	115	150	205	290	420
16	1500	94	18	26	34	48	65	94	140	190	260	345	495	655
	1000	62	13	19	23	31	44	66	95	135	185	240	355	490
	750	47	9	12	17	25	34	51	73	102	140	180	275	375
18	1500	83	16	23	31	42	66	76	125	145	225	315	435	560
	1000	56	10	15	22	28	41	54	85	103	150	235	325	415
	750	41	7	11	16	22	32	43	65	80	115	185	255	345
20	1500	75		20	25	40	52	75	116	144	210	285	415	525
	1000	50		13	18	26	35	51	80	99	145	195	285	380
	750	38		10	12	20	27	40	60	78	114	150	235	310
22.4	1500	67			23	34	44	68	102	136	190	255	390	495
	1000	45			15	24	29	45	69	93	130	170	260	350
	750	33			11	17	22	34	55	72	100	130	202	280

Note: It is always necessary to check for thermal capacities of the Gearbox at higher output speeds and higher Ratings. Contact INGECO for any type of cooling required.

INGECO GEARBOX ICN DIMENSIONS







Size of Gear unit ICN	Input Shaft In=45 D	Input Shaft In=45 L	Input Shaft In>45 upto 100 D	Input Shaft In>45 upto 100 L	Input Shaft In>100 D	Input Shaft In>100 L	Output Shaft D1	Output Shaft L1	C	F	B	E	h	H	T	A	K	O	M	N	S	G	FAN COOLING U	FAN COOLING V	Weight in KGS	OIL QTY [LITRES]
160	25	60	20	50	–	–	70	140	350	560	250	210	180	435	645		145	18	115	95	37	495	245	302	165	10
180	30	80	25	60	–	–	80	170	395	630	270	230	200	480	725		160	18	135	105	37	565	255	302	220	12
200	35	80	30	80	20	50	90	170	440	690	300	250	225	525	805		175	23	145	110	43	615	280	382	300	16
225	45	110	35	80	25	60	100	210	495	780	320	270	250	575	895		190	23	165	125	48	705	290	380	415	25
250	50	110	40	110	30	80	110	210	555	865	370	310	280	630	1000		210	27	180	135	55	780	315	380	545	30
280	55	110	45	110	35	80	120	210	620	975	100	340	315	695	1130		230	27	200	155	60	880	345	532	735	42
315	60	140	50	110	40	110	140	250	700	1095	450	380	355	790	1255	655	260	33	220	185	63	985	370	532	970	58
355	70	140	55	110	45	110	160	300	785	1225	480	410	400	870	1400	740	285	33	245	205	70	1110	405	652	1320	82
400	75	140	60	140	50	110	170	300	880	1360	530	460	450	965	1565	840	305	33	280	230	75	1245	430	652	1775	116

Larger Gearbox Sizes of this design on enquiry.
Details of cooling system will be provided on request wherever required
Above dimensions are not binding. Get certified drawings from INGECO for installation

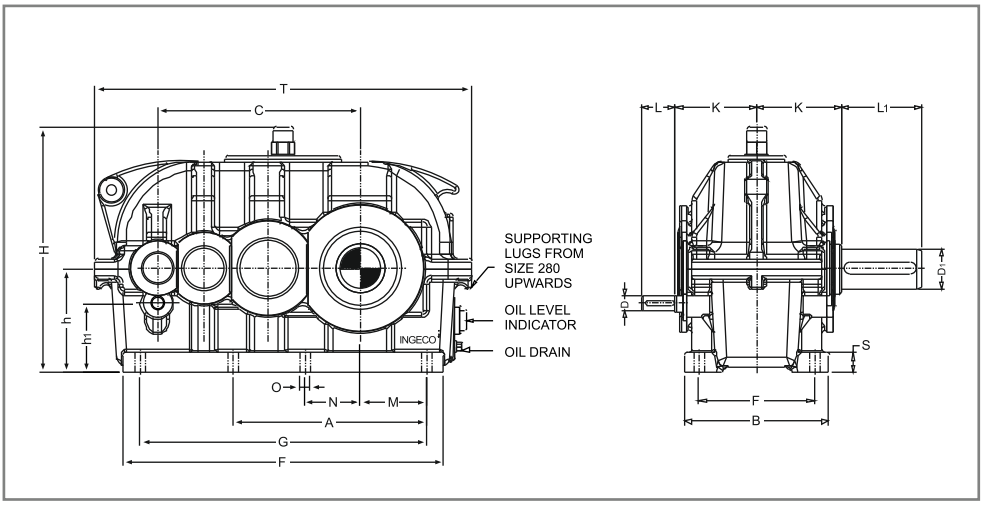
ICN POWER RATINGS

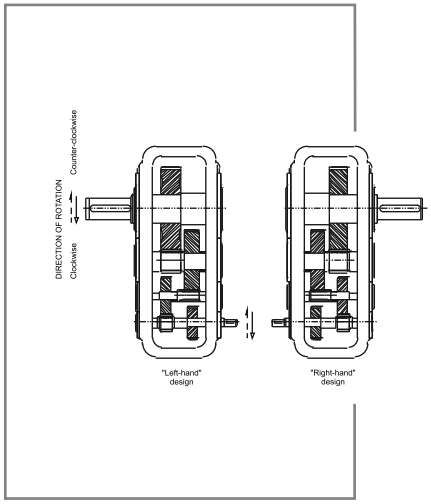
Nominal Ratio, In	Nominal Speed (rpm) n1	Nominal Speed (rpm) n2	Size of Gear unit ICN 160	ICN 180	ICN 200	ICN 225	ICN 250	ICN 280	ICN 315	ICN 355	ICN 400
			Nominal Gear Box Power Ratings Pn (Kw)								
14	1500	107	56	70	110	140	200	280	380	500	660
	1000	71	36	47	75	95	135	190	270	390	500
	750	53	28	36	56	75	105	150	215	300	390
16	1500	94	48	65	95	130	180	260	350	460	600
	1000	62	33	44	66	88	120	170	250	350	460
	750	47	25	33	50	68	95	135	200	270	360
18	1500	83	44	62	85	120	160	230	320	425	550
	1000	56	32	42	60	80	105	150	220	325	420
	750	41	24	32	45	62	85	120	170	255	330
20	1500	75	42	59	75	105	145	205	295	390	500
	1000	50	28	39	55	70	98	140	200	295	380
	750	38	21	30	43	55	77	110	160	245	305
22.4	1500	67	35	52	66	93	130	185	270	355	480
	1000	45	25	35	50	65	91	130	190	270	345
	750	33	20	26	40	49	69	96	140	220	275
25	1500	60	32	44	62	83	115	160	235	335	450
	1000	40	20	30	42	57	80	110	165	260	315
	750	30	16	22	31	43	60	85	125	200	240
28	1500	54	27	40	56	75	105	145	215	320	405
	1000	36	18	27	38	52	72	100	150	235	285
	750	27	14	20	28	39	54	77	115	165	215
31.5	1500	48	24	33	48	69	95	130	200	297	385
	1000	32	16	22	33	46	63	87	130	210	255
	750	24	13	17	25	35	49	65	100	150	190
35.5	1500	42	22	32	46	62	87	120	180	280	345
	1000	28	15	22	30	41	58	82	120	185	230
	750	21	11	16	23	31	43	61	90	145	175
40	1500	38	20	30	43	56	78	110	160	240	310
	1000	25	14	21	28	37	52	72	105	165	205
	750	19	10	15	22	29	41	56	82	125	155
45	1500	33.5	17	26	36	50	69	97	145	225	275
	1000	22	12	17	25	33	46	64	95	155	180
	750	16.6	8.5	13	18	26	36	50	74	120	140
50	1500	30	16	23	32	44	62	87	130	205	245
	1000	20	11	15	22	31	43	60	87	140	165
	750	15	8	12	16	23	32	44	65	105	120
56	1500	27	15	20	28	39	55	77	115	175	220
	1000	18	10	14	19	27	38	53	77	120	145
	750	13.4	7	10	15	21	28	40	59	93	110
63	1500	24	12	17	23	35	45	63	100	155	197
	1000	16	8	11	16	24	30	43	69	110	132
	750	12	6	8.5	12	18	23	32	52	80	100
71	1500	21	9.5	15	21	31	40	56	90	137	175
	1000	14	6.5	10	14	22	27	39	61	95	115
	750	10.5	5	7.5	11	16	20	29	46	70	87
80	1500	18.8	8.5	14	19	29	36	51	82	120	160
	1000	12.5	6	9	13	19	24	34	54	85	105
	750	9.4	4.5	7	10	14	19	27	40	65	80
90	1500	16.7	8	12	17	26	32	46	74	115	140
	1000	11.1	5.5	8	11	17	22	31	49	75	95
	750	8.3	4	6.5	9	13	17	24	37	60	70
100	1500	15		9.5	16	24	30	44	60	95	130
	1000	10		7	11	16	21	30	40	65	87
	750	7.5		5	8	12	16	22	30	50	66
112	1500	13.4			15	21	29	40	53	85	120
	1000	8.9			10	14	19	27	36	60	80
	750	6.7			7	11	15	20	27	45	60

Note: It is always necessary to check for thermal capacities of the Gearbox at higher output speeds and higher Ratings. Contact INGECO for any type of cooling required.

INGECO GEARBOX

IDN DIMENSIONS





Size of Gear unit IDN	Input Shaft				Output Shaft		DIMENSIONS (MM)															Weight in KGS	OIL QTY [LITRES]
	In≤500		In>500																				
	D	L	D	L	D1	L1	C	F	B	E	h	h1	H	T	A	K	O	M	N	S	G		
225	18	40			100	210	495	780	325	270	250	170	570	900		190	23	165	125	47	705	415	23
250	22	50			110	210	555	870	375	310	280	190	625	1100		210	27	180	135	52	780	545	30
280	25	60	20	50	120	210	620	975	405	340	315	215	690	1135		230	27	200	155	57	880	730	40
315	30	80	25	60	140	250	700	1090	450	380	355	245	785	1260	655	260	33	220	185	62	985	985	58
355	40	110	30	80	160	300	785	1230	485	410	400	275	865	1405	740	285	33	245	205	67	1110	1340	82
400	45	110	35	80	170	300	880	1365	535	460	450	310	960	1570	840	305	33	280	230	75	1245	1795	120

Larger Gearbox Sizes of this design on enquiry.
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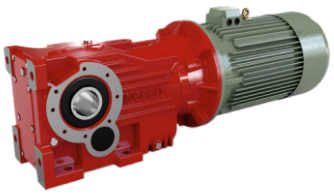
Above dimensions are not binding. Get certified drawings from INGECO for installation

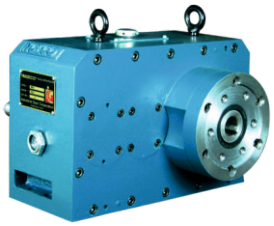
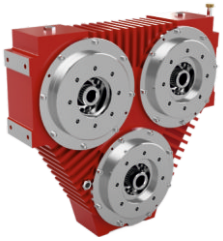
Nominal Ratio, In	Nominal Speed (rpm)		Size of Gear unit					
	n1	n2	IDN 225	IDN 250	IDN 280	IDN 315	IDN 355	IDN 400
			Nominal Gear Box Power Ratings Pn (Kw)					
112	1500	13.4	25	32	48	66	100	120
	1000	8.9	18	22	30	44	65	80
	750	6.7	12	18	24	34	49	62
125	1500	12	20	30	40	59	88	105
	1000	8	15	20	25	38	59	70
	750	6	11	15	20	30	45	53
140	1500	10.7	19	25	35	50	78	95
	1000	7.15	13	18	24	35	50	63
	750	5.4	10	14	18	26	40	49
160	1500	9.37	14	22	30	45	68	80
	1000	6.25	10	16	20	30	47	55
	750	4.68	8	12	15	25	36	42
180	1500	8.34	15	20	26	40	62	75
	1000	5.56	9	13	18	28	42	50
	750	4.17	9	10	14	20	32	39
200	1500	7.5	14	16	25	35	55	67
	1000	5	8	11	16	25	36	45
	750	3.75	6	9	12	19	30	35
224	1500	6.7	12	15	21	32	50	60
	1000	4.47	8	10	15	22	33	40
	750	3.35	5	7	11	16	25	30
250	1500	6	10	13	20	28	45	50
	1000	4	7	9	13	19	30	36
	750	3	5	7	10	15	22	27
250	1500	5.35	9	12	18	25	40	48
	1000	3.57	6	8	12	17	27	32
	750	2.67	4	6	9	13	20	24
315	1500	4.76	8	10	15	23	35	44
	1000	3.17	5	7	10	16	25	29
	750	2.38	3.5	5	8	12	18	22
355	1500	4.23	7	9	13	20	32	39
	1000	2.82	4.5	6	9	14	22	25
	750	2.12	3	4.5	7	10	16	20
400	1500	3.75	6	9	12	18	30	35
	1000	2.5	4	5	8	12	20	23
	750	1.88	3	4	6	9	15	17
450	1500	3.33	5	8	11	15	25	31
	1000	2.22	3.5	5	7	10	16	20
	750	1.66	2.5	3	5	8	12	15
500	1500	3		7	10	13	20	29
	1000	2		4.5	6	9	14	19
	750	1.6		3	5	7	10	14
560	1500	2.68			8	12	18	26
	1000	1.78			6	8	12	17
	750	1.34			4	6	9	13
630	1500	2.38				10	16	23
	1000	1.59				7	10	16
	630	1.19				5	7	12

Other INGECO Products







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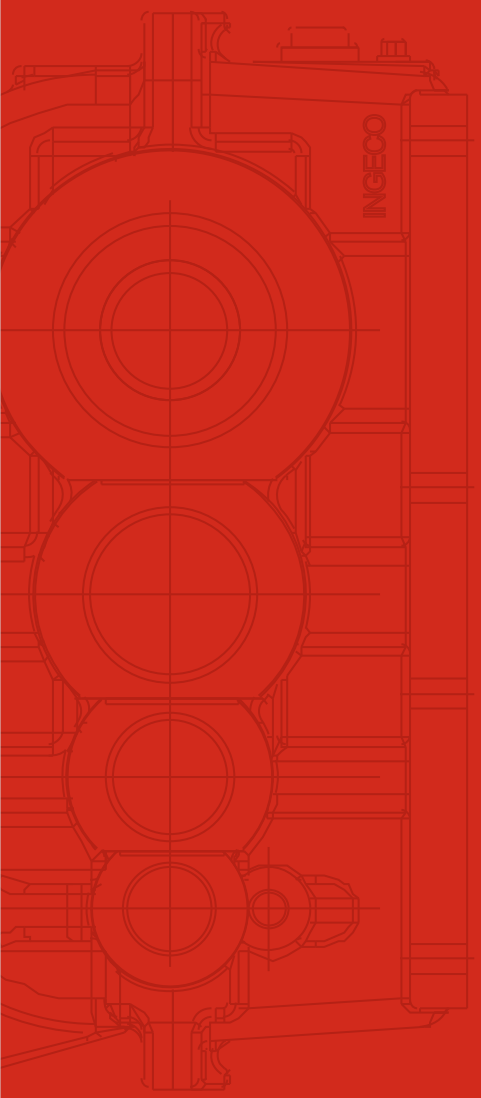

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