

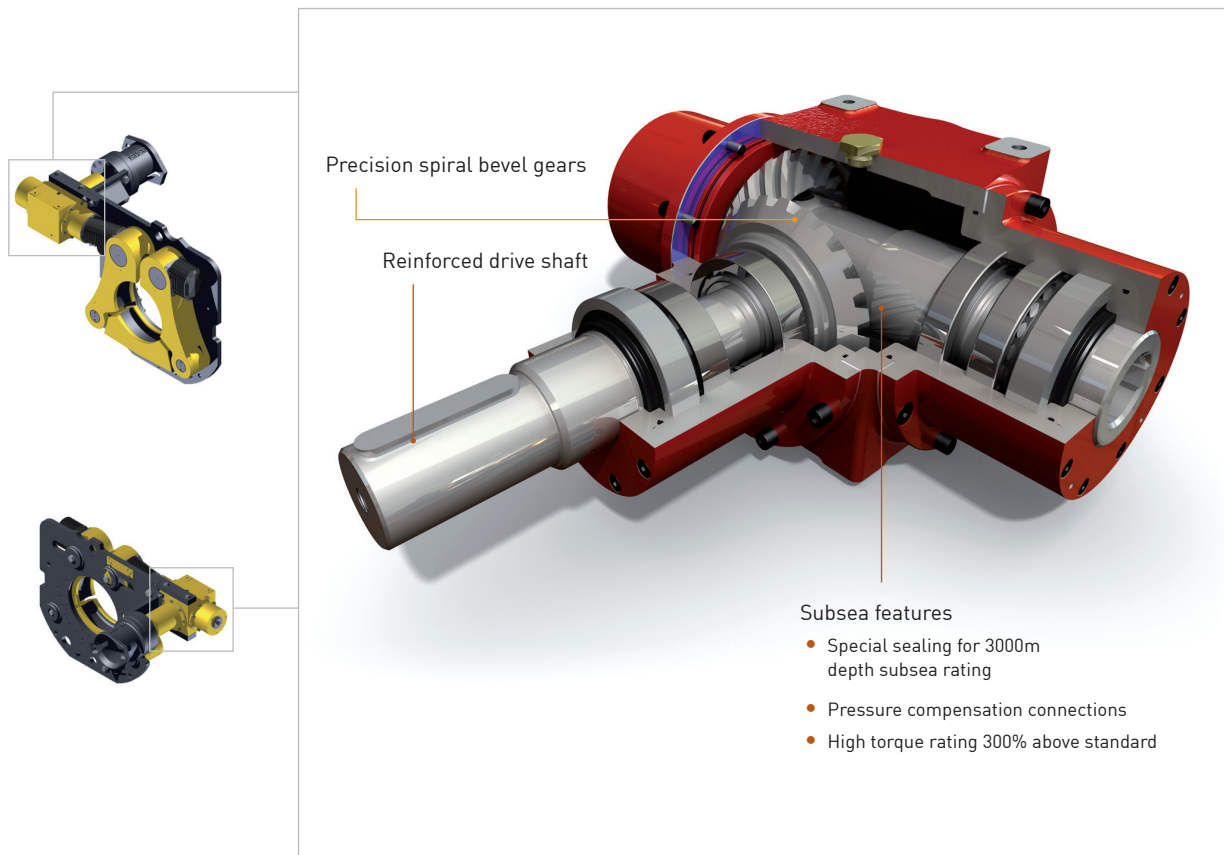


Case Study

Retrievable Subsea Choke
Clamp Connector.



Retrievable Subsea Choke Clamp Connector



The Destec Engineering clamp connector is a three piece, double hinged single bolt design based on field proven hub/clamp technology. This simple rotary clamp make up can be operated either by a diver or ROV. The Power Jacks Neeter Drive bevel gearbox, gives easy access to the choke drive from above to facilitate maintenance.

The Neeter Drive bevel gearbox turns a mechanical drive line through 90° degrees with one or more shaft outputs, available in solid or hollow shaft designs. Both types have been used on different clamp collar designs with the ultra compact construction of the Neeter Drive gearboxes proving ideal for restricted spaces.

For this application, a special high torque, subsea variant of the Neeter Drive Range-N Series-39 gearbox was designed and manufactured. The gearbox features precision spiral bevel gears, reinforced drive shafts and special subsea sealing with pressure compensation connections.

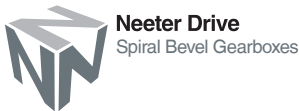
The Series-39 gearboxes operate on chokes used on subsea installations worldwide in sea water depths up to 3000 metres with operating temperatures of up to 200°C. The choke itself is a highly demanding application, which operates in extremely hazardous conditions. They are designed and built using high erosion resistance materials with a design life in excess of 25 years.



Case Study

ENERGY

When Destec Engineering, based in Lincoln, had a requirement for a clamp connector with a 90° drive for their ROV. Power Jacks provided a bespoke solution using a Neeter Drive bevel gearbox.



Series 35, 37, 38, 39 and 40



2 Way



3 Way



3 Way hollow shaft



4 Way



4 Way hollow shaft

These ultra compact bevel gearboxes are designed for the transmission of rotary mechanical power through ninety degrees or split power from one input drive to two or three output drives. They use precision cut spiral bevel gears to deliver a smooth and quiet transmission with an efficiency of up to 98%. While the standard design is suitable for most applications our engineering team can customise units to meet the most arduous of conditions whether inside, outside, on land or subsea.

Neeter Drive is the UK's largest and well known manufacturer of high quality engineered right angle spiral bevel gearboxes. Originally founded in 1939 Neeter Drive has been a division of Power Jacks Limited since 2002.

Find out more at www.powerjacks.com/range-n

Ultra Compact Bevel Gearbox Design

- Gear Ratios: 1:1, 1.5:1, 2:1, 3:1 & 4:1
- Torque Ratings up to 3000 Nm
- Special Custom Design Available
- High torque variants available
- Special Gear Ratios Available
- Popular models ex-stock

Bevel Gearboxes

Neeter Drive Range-N

General Performance

Series	35					37					38					39					40				
Gear Ratio	1:1	1.5:1	2:1	3:1	1:1	1.5:1	2:1	3:1	4:1	1:1	1.5:1	2:1	3:1	4:1	1:1	1.5:1	2:1	3:1	4:1	1:1	1.5:1	2:1	3:1	4:1	
Power Ratings at given Input Speeds [rev min-1]																									
10	kW	0.1	0.04	0.03	0.01	0.2	0.1	0.1	0.03	0.01	0.5	0.2	0.3	0.1	0.03	1	0.34	0.5	0.2	0.1	3.3	1.9	1.5	0.7	0.4
	Nm	94	56	56	28	187	140	187	84	37	468	281	562	281	112	936	47	936	562	374	3088	2667	2808	1965	1497
50	kW	0.4	0.2	0.12	0.03	1	0.5	0.3	0.11	0.06	2.5	0.9	0.6	0.3	0.13	5	1.7	2	0.8	0.4	16.2	8.9	6.8	2.6	1.5
	Nm	75	56	45	17	187	140	112	62	45	468	253	225	168	97	936	477	749	449	299	3032	2499	2546	1460	1123
100	kW	0.8	0.4	0.2	0.06	2	0.8	0.6	0.2	0.1	5	1.6	1.2	0.5	0.23	9.8	3.4	3.6	1.4	0.7	31.8	16.3	12.5	4.5	2.8
	Nm	75	56	37	17	187	112	112	56	37	468	225	225	140	86	917	477	674	393	262	2976	2288	2340	1263	1048
250	kW	1.7	0.7	0.5	0.15	4.3	1.9	1.3	0.5	0.2	11.7	3.4	2.6	1.2	0.7	22.2	9.0	7.9	3.2	1.74	74.3	36.4	28	10.3	6.9
	Nm	64	39	37	17	161	107	97	56	30	438	191	195	135	105	831	505	591	359	261	2781	2044	2096	1157	1033
500	kW	3.1	1.4	0.9	0.31	7.7	3.5	2.5	0.8	0.4	21.2*	6.1	4.8	2.2	0.9	38.6	18.9	14.5	5.9	2.9	126*	65.6	52	19.2	11.7
	Nm	58	39	34	17	144	98	94	45	30	397*	171	180	124	67	723	531	543	331	217	2358*	1842	1947	1078	876
750	kW	4.3*	2.1	1.2	0.45	10.8*	5	3.5	1.2	0.6	29.9*	8.7	6.9	3.1	1.3	52*	29.2	20.7	8.4	4.2	166*	90.8*	74.8	27.8	16.9
	m	54*	39	30	17	135*	94	87	45	30	373*	163	172	116	65	649*	547	517	314	210	2071*	700*	1867	1041	844
1000	kW	5.4*	2.6	1.6	0.6	13.6*	6.4	4.5	1.5	0.8	38*	11.1	9	4	1.7	62.9*	39.9	26.6	10.9	5.4	194*	112*	96.7*	36.1	21.9
	Nm	51*	37	30	17	127*	90	84	42	30	356*	156	168	112	64	589*	560	498	306	202	1816*	1572*	810*	1014	820
1500	kW	7.4*	3.7*	2.2	0.9	18.5*	9*	6.4	2.1	1.2	52.6*	15.5	12.8	5.7	2.4	77.2*	61.5*	38	15.6	7.7	-*	145*	139*	52	31.6
	Nm	46*	35*	27	17	115*	84*	80	39	30	328*	145	160	107	60	482	576*	474	292	192	-*	1357*	1735*	973	789
2000	kW	8.9*	4.7*	2.9	1.2	22.6*	11.5*	8.1	2.8	1.5	65.1*	19.4	16.6	7.5	3.2	-*	83.2*	49.5*	20.5	10.2	-*	-*	181*	68.3	42.1
	Nm	42*	33*	27	17	106*	81*	76	39	28	305*	136	155	105	60	-*	584*	463*	288	191	-*	-*	1694*	959	788
2500	kW	8.9*	4.7*	2.9*	1.3	26.3*	14.3*	10.1*	3.5	1.9	76.6*	23.6*	20.6*	9.4	4	-*	105*	62.8*	25.4	12.7	-*	-*	226*	85.2	52.5
	Nm	33*	26*	22*	15	98*	80*	76*	39	28	287*	133*	154*	106	60	-*	590*	470*	285	190	-*	-*	1692*	957*	786
3000	kW	10.4*	5.6*	3.6*	1.6	30.6*	17*	12*	4.2	2.25	-*	27.6*	24.6*	11.2	4.8	-*	-*	76.3*	30.3	15.6	-*	-*	-*	102*	62.8
	Nm	32*	26*	22	15	95*	80*	75*	39	28	-*	129*	153*	105	60	-*	-*	476*	284	191	-*	-*	-*	955*	784

Ratings with * - check thermal limit!

PRECISION SCREW JACKS . ELECTRIC LINEAR ACTUATORS .
PLANETARY ROLLER SCREWS . SPIRAL BEVEL GEARBOXES .

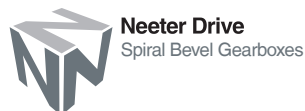
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FM 23810

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