



fang  **TOOTH**

"DISCUS" SERIES



**High Performance
Disc Pack Lamina
Couplings
High Speed
Torsionally Rigid**



www.fangtooth-linear.com

"DISCUS" Series

Styles

High Performance Couplings
Disc Pack Lamina Couplings

DISC-KEYD (Keyed)



SINGLE "S"



DOUBLE "D"



DOUBLE LONG "DL"

DISC-TPRD (Conical Taperlock)



SINGLE "S"



DOUBLE "D"

FEATURES

extremely high torsional stiffness
wear and maintenance free
compensates for axial and angular misalignment only

DISC-CLMP (Split Clamp Hub)



SINGLE "S"



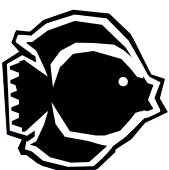
DOUBLE "D"

MATERIAL

disc pack: highly elastic spring steel
hubs: high strength steel

DESIGN

Two precision machined coupling hubs mounted to the disc pack by means of high strength screws and bushings for alignment and frictional clamping of the assembly.

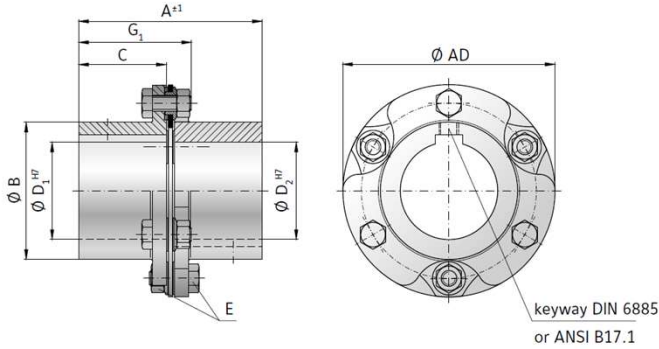




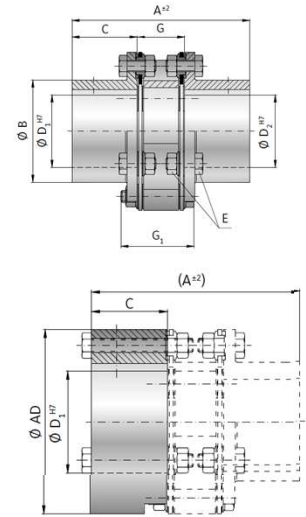
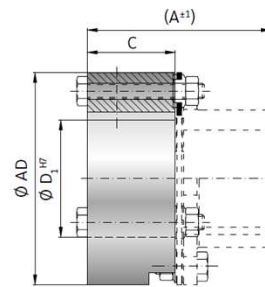
DIMENSION KEYED DISC-KEYD STANDARD

"DISCUS" Series

S = single flex design



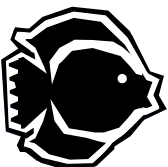
Optional XL Hub



SIZE			300		500		700		1100		1600		2600	
Type			S	D	S	D	S	D	S	D	S	D	S	D
Rated torque	(Nm)	T _{KN}	350		500		700		1,100		1,600		2,600	
Maximum torque	(Nm)	T _{KNmax}	700		1,000		1,400		2,200		3,200		5,200	
Overall length	(mm)	A	95	123	95	123	116	154	117	158	158	204	161	208
Outside diameter	(mm)	Ø AD	99		109		128		133		150		168	
Hub diameter	(mm)	Ø B	63		70.5		78		84		86		102	
Hub fit length	(mm)	C	45		45		55		55		75		76	
Bore diameter available from Ø to Ø H7	(mm)	D _{1/2}	18 - 48		23 - 50		25 - 58		25 - 60		28 - 64		31 - 75	
Bore diameter available from Ø to Ø H7 (XL Hub)	(mm)	D _{1/2}	> 48 - 53		> 50 - 60		> 58 - 65		> 60 - 70		> 64 - 80		> 75 - 90	
Assembly screw (ISO 4017) Tensioning nut (DIN 4032)		E	M8		M8		M10		M10		M12		M12	
Tightening torque	(Nm)		35		40		65		95		150		165	
Distance between hubs	(mm)	G	-	33	-	33	-	44	-	48	-	54	-	56
Assembly length	(mm)	G ₁	60	50.3	60	50.3	75	61.4	75	66.4	98	77.5	99	77.5
Moment of inertia**	(10 ⁻³ kgm ²)	J _{ges.}	1.7	2.6	3	4	5	9	6.4	10.5	11.3	18	20	32
Weight**	(kg)		1.5	2.2	2.0	2.9	2.9	4.4	3.4	5.2	5	7.3	6.8	10
Torsional stiffness disc packs	(kNm/rad)	C _T	200	100	280	140	470	235	540	270	800	400	1,200	600
Axial ±	(mm)	max. values	0.5	1.0	0.6	1.0	0.7	1.5	0.8	1.5	1.0	2.0	1.1	2.0
Lateral ±	(mm)		-	0.2	-	0.2	-	0.3	-	0.3	-	0.4	-	0.4
Angular ±	(degree)		0.7	1.4	0.7	1.4	0.7	1.4	0.7	1.4	0.7	1.4	0.7	1.4
Max. speed	(min ⁻¹)		5,800		5,200		4,500		4,300		3,850		3,500	
Max. speed (balanced)***	(min ⁻¹)		13,500		12,300		10,500		10,000		8,950		8,000	

** at maximum bore diameter | *** higher speeds on request

ORDERING CODE EXAMPLE "DISC-KEYD-S / SIZE / BORE 001 / BORE 002"

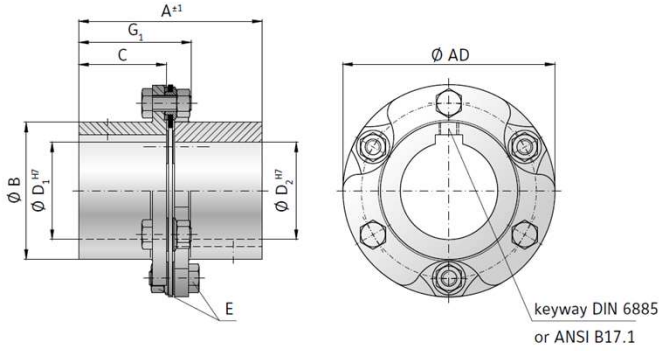




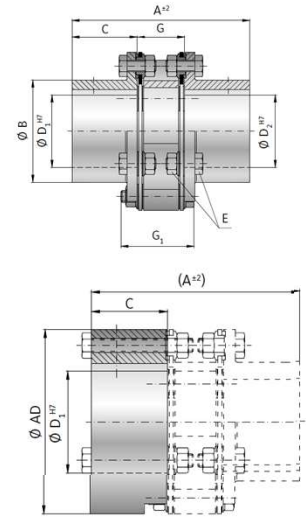
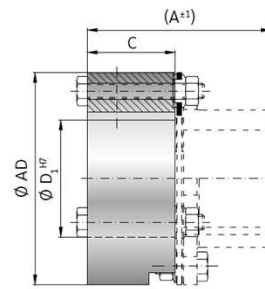
DIMENSION KEYED DISC-KEYD STANDARD

"DISCUS" Series

S = single flex design



Optional XL Hub

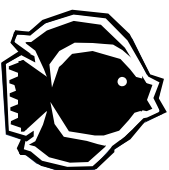


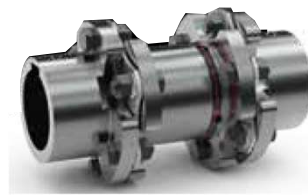
SIZE			4000		6000		8000		15000		25000	
Type			S	D	S	D	S	D	S	D	S	D
Rated torque	(Nm)	T_{KN}	4,000		6,000		8,000		15,000		25,000	
Maximum torque	(Nm)	T_{KNmax}	8,000		12,000		16,000		30,000		50,000	
Overall length	(mm)	A	193	250	193	258	216	297	264.7	336.4	346.7	468.4
Outside diameter	(mm)	$\varnothing AD$	198		212		238		272		300	
Hub diameter	(mm)	$\varnothing B$	120		130		140		182		189	
Hub fit length	(mm)	C	90		90		100		125		165	
Bore diameter available from \varnothing to $\varnothing H7$	(mm)	$D_{1/2}$	38 - 90		39 - 95		50 - 102		70 - 140		on request	
Bore diameter available from \varnothing to $\varnothing H7$ (XL Hub)	(mm)	$D_{1/2}$	> 90 - 100		> 95 - 115		> 102 - 125		> 140 - 160		on request	
Assembly screw (ISO 4017)		E	M16		M16		M20		M20		M24	
Tensioning nut (DIN 4032)			M16		M16		M20		M20		M24	
Tightening torque	(Nm)		360		400		755		770		47	
Distance between hubs	(mm)	G	-	70	-	78	-	97	-	86.4	-	138.4
Assembly length	(mm)	G_1	120	100	120	110	140	132.5	165	132.5	227.8	230.6
Moment of inertia**	($10^{-3}kgm^2$)	$J_{ges.}$	46	74	61	100	118	200	261	400	718	on request
Weight**	(kg)		11.1	16	13	19.5	19.4	30.2	30.5	44	78	on request
Torsional stiffness disc packs	(kNm/rad)	C_T	2,000	1,000	2,500	1,250	3,600	1,800	7,700	3,850	16,000	8,000
Axial \pm	(mm)	max. values	1.3	2.5	1.3	2.5	1.3	2.5	1.5	3.0	1.5	4.0
Lateral \pm	(mm)		-	0.5	-	0.5	-	0.6	-	0.7	-	0.8
Angular \pm	(degree)		0.7	1.4	0.7	1.4	0.7	1.4	0.7	1.4	0.7	1.4
Max. speed	(min^{-1})		2,950		2,700		2,400		2,100		1,900	
Max. speed (balanced)***	(min^{-1})		6,700		6,300		5,600		4,900		4,500	

** at maximum bore diameter | *** higher speeds on request

ORDERING CODE EXAMPLE

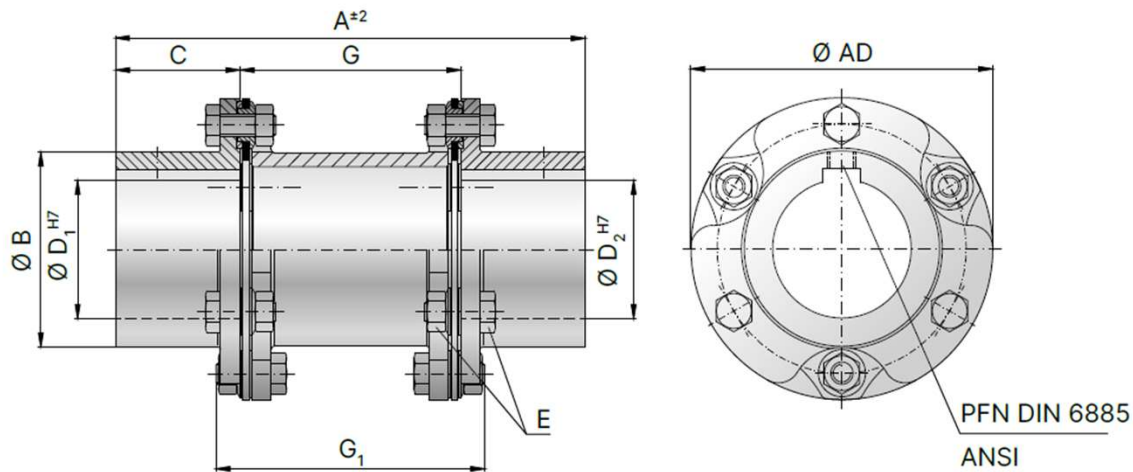
"DISC-KEYD-S / SIZE / BORE 001 / BORE 002"





DIMENSION KEYED DISC-KEYD DOUBLE LONG "DL"

"DISCUS" Series



SIZE			300	500	700	1100	1600	2600
Rated torque	(Nm)	T_{KN}	350	500	700	1.100	1.600	2.600
Maximum torque	(Nm)	T_{KNmax}	700	1.000	1.400	2.200	3.200	5.200
Overall length	(mm)	A	170	170	205	206	286	286
Outside diameter	(mm)	$\varnothing AD$	99	109	128	133	150	168
Hub diameter	(mm)	$\varnothing B$	63	70,5	78	84	86	102
Hub fit length	(mm)	C	45	45	55	55	75	76
Bore diameter available from \varnothing to $\varnothing H7$	(mm)	$D_{1/2}$	18 - 48	23 - 50	25 - 58	25 - 60	28 - 64	31 - 75
Bore diameter available from \varnothing to $\varnothing H7$ (XL Hub)	(mm)	$D_{1/2}$	> 48 - 53	> 50 - 60	> 58 - 65	> 60 - 70	> 64 - 80	> 75 - 90
Assembly screw Tensioning nut	(ISO 4017) (DIN 4032)	E	M8	M8	M10	M10	M12	M12
Tightening torque	(Nm)		35	40	65	95	150	165
Distance between hubs	(mm)	G	80	80	95	96	136	134
Assembly length	(mm)	G_1	100	100	123	124	166	162
Moment of inertia**	($10^{-3}kgm^2$)	$J_{ges.}$	4	5	9	11	20	35
Weight**	(kg)		2,6	3,5	4,8	5,4	8,5	12
Torsional stiffness disc packs	(kNm/rad)	C_T	100	140	235	270	400	600
Axial ±	(mm)	max. values	1	1	1,5	1,5	2	2
Lateral ±	(mm)		0,8	0,8	1	1	1,4	1,4
Angular ±	(degree)		1,4	1,4	1,4	1,4	1,4	1,4
Max. speed	(min^{-1})		5.800	5.200	4.500	4.300	3.850	3.500
Max. speed (balanced)***	(min^{-1})		13.500	12.300	10.500	10.000	8.000	8.000

ORDERING CODE EXAMPLE

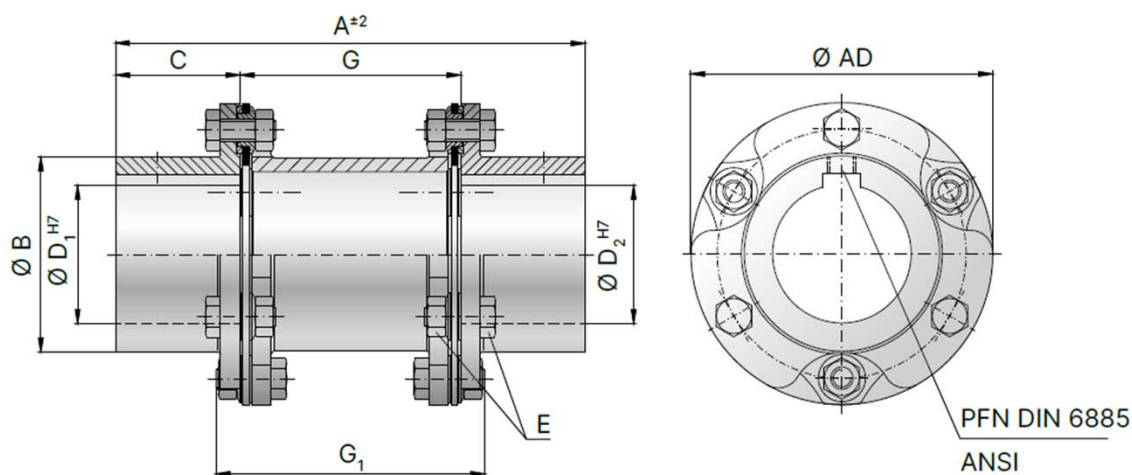
"DISC-KEYD-DL / SIZE / BORE 001 / BORE 002"





DIMENSION KEYED DISC-KEYD DOUBLE LONG "DL"

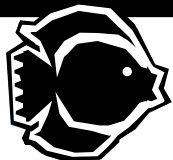
"DISCUS" Series



SIZE			4000	6000	8000	15000	25000
Rated torque	(Nm)	T_{KN}	4.000	6.000	8.000	15.000	25.000
Maximum torque	(Nm)	T_{KNmax}	8.000	12.000	16.000	30.000	50.000
Overall length	(mm)	A	320	340	372	474	669,4
Outside diameter	(mm)	$\varnothing AD$	198	212	238	272	300
Hub diameter	(mm)	$\varnothing B$	120	130	140	182	189
Hub fit length	(mm)	C	90	90	100	125	165
Bore diameter available from \varnothing to $\varnothing H7$	(mm)	$D_{1/2}$	38 - 90	39 - 95	50 - 102	70 - 140	75 - 145
Bore diameter available from \varnothing to $\varnothing H7$ (XL Hub)	(mm)	$D_{1/2}$	> 90 - 100	> 95 - 115	> 102 - 125	> 140 - 160	> 145 - 170
Assembly screw	(ISO 4017)	E	M16	M16	M20	M20	M24
Tensioning nut	(DIN 4032)						
Tightening torque	(Nm)		360	400	755	770	47
Distance between hubs	(mm)	G	140	160	172	224	339,4
Assembly length	(mm)	G_1	174	194	220	274,6	431,6
Moment of inertia**	($10^{-3}kgm^2$)	$J_{ges.}$	81	109	216	448	870
Weight**	(kg)		18,4	21,3	33	48,9	82
Torsional stiffness disc packs	(kNm/rad)	C_T	1.000	1.250	1.800	3.850	8.000
Axial \pm	(mm)	max. values	2,5	2,5	2,5	3	4
Lateral \pm	(mm)		1,4	1,5	1,6	2,2	2,6
Angular \pm	(degree)		1,4	1,4	1,4	1,4	1,4
Max. speed	(min^{-1})		2.900	2.700	2.400		1.900
Max. speed (balanced)***	(min^{-1})		6.700	6.300	5.600		1.500

ORDERING CODE EXAMPLE

"DISC-KEYD-DL / SIZE / BORE 001 / BORE 002"

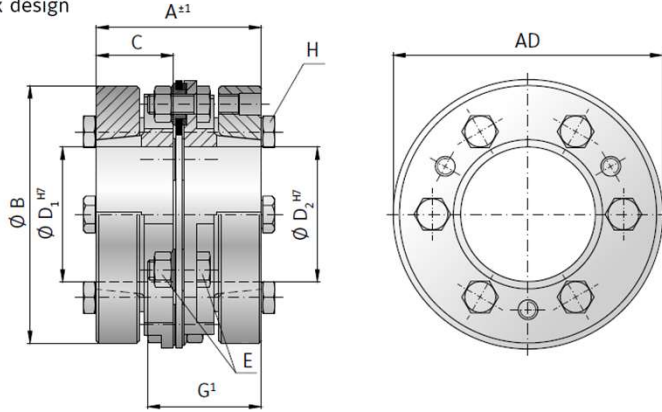




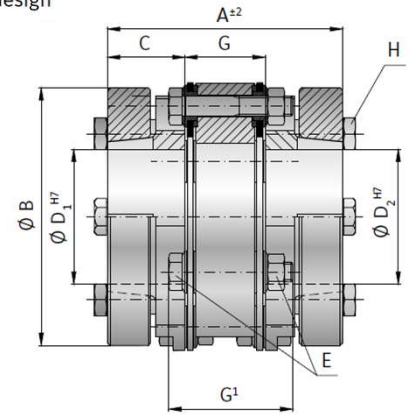
DIMENSION TAPERLOCK DISC-TPRD STANDARD

"DISCUS" Series

S = single flex design



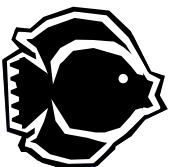
D = dual flex design



SIZE			300		500		700		1100		1600		2600	
Type			S	D	S	D	S	D	S	D	S	D	S	D
Rated torque	(Nm)	T_{KN}	350		500		700		1.100		1.600		2.600	
Maximum torque	(Nm)	T_{KNmax}	700		1.000		1.400		2.200		3.200		5.200	
Overall length	(mm)	A	76	104	76	104	93	131	99	140	120	166	136	183
Outside diameter	(mm)	$\varnothing AD$	99		109		128		133		150		168	
Hub diameter	(mm)	$\varnothing B$	95		105		122		130		146		165	
Hub fit length	(mm)	C	35,5		35,5		43,5		46		56		63,5	
Bore diameter available from \varnothing to $\varnothing H7$	(mm)	$D_{1/2}$	24 - 50		24 - 55		30 - 65		30 - 65		35 - 70		35 - 85	
Assembly screw (ISO 4017) Tensioning nut (DIN 4032)		E	M8		M8		M10		M10		M12		M12	
Tightening torque	(Nm)		35		40		65		95		150		165	
Distance between hubs	(mm)	G	-	33	-	33	-	44	-	48	-	54	-	56
Assembly length	(mm)	G_1	50,5	50,3	50,5	50,3	63,5	61,4	66	66,4	79	77,5	86,5	77,5
Assembly screw (ISO 4017)		H	6 x M8		6 x M8		6 x M10		6 x M10		6 x M12		6 x M12	
Tightening torque	(Nm)		20		26		39		61		98		140	
Moment of inertia**	(10^{-3}kgm^2)	J_{ges}	3	4	5	7	12	15	16	20	30	38	57	69
Weight**	(kg)		2,4	3,2	3,0	3,9	5	6,5	6,1	7,9	9,6	12,0	13,6	16,7
Torsional stiffness disc packs	(kNm/rad)	C_T	200	100	280	140	470	235	540	270	800	400	1.200	600
Axial \pm	(mm)	max. values	0,5	1,0	0,6	1,0	0,7	1,5	0,8	1,5	1,0	2,0	1,1	2,0
Lateral \pm	(mm)		-	0,2	-	0,2	-	0,3	-	0,3	-	0,4	-	0,4
Angular \pm	(degree)		0,7	1,4	0,7	1,4	0,7	1,4	0,7	1,4	0,7	1,4	0,7	1,4
Max. speed	(min^{-1})		5.800		5.200		4.500		4.300		3.850		3.500	
Max. speed (balanced)***	(min^{-1})		13.500		12.300		10.500		10.000		8.950		8.000	

ORDERING CODE EXAMPLE

"DISC-TPRD-S / SIZE / BORE 001 / BORE 002"

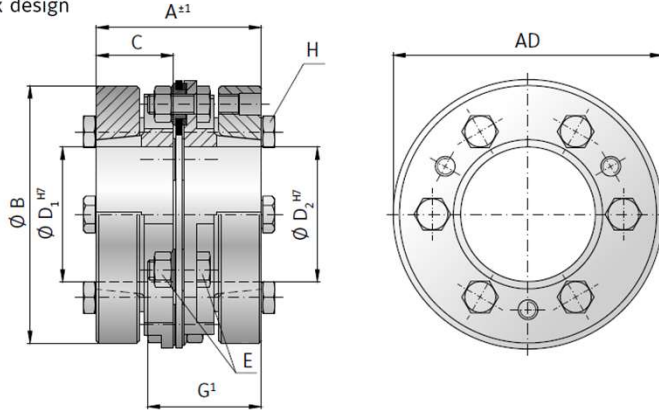




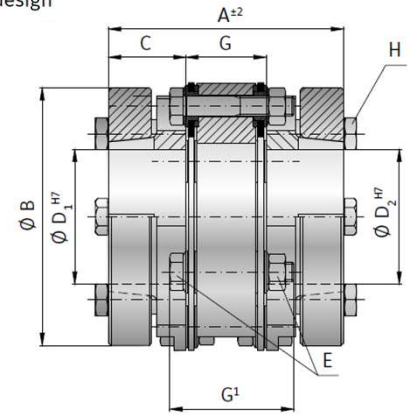
DIMENSION TAPERLOCK DISC-TPRD STANDARD

"DISCUS" Series

S = single flex design



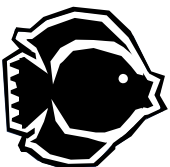
D = dual flex design



SIZE			4000		6000		8000		15000		25000	
Type			S	D	S	D	S	D	S	D	S	D
Rated torque	(Nm)	T_{KN}	4.000		6.000		8.000		15.000		25.000	
Maximum torque	(Nm)	T_{KNmax}	8.000		12.000		16.000		30.000		50.000	
Overall length	(mm)	A	161	218	174	239	226	307	238,7	310,4	264,7	386,4
Outside diameter	(mm)	$\varnothing AD$	198		212		238		272		300	
Hub diameter	(mm)	$\varnothing B$	184		205		230		269		295	
Hub fit length	(mm)	C	74		80,5		105		112		124	
Bore diameter available from \varnothing to $\varnothing H7$	(mm)	$D_{1/2}$	50 - 100		50 - 110		60 - 115		70 - 150		90 - 170	
Assembly screw Tensioning nut	(ISO 4017) (DIN 4032)	E	M16		M16		M20		M20		M24	
Tightening torque	(Nm)		360		400		755		770		47	
Distance between hubs	(mm)	G	-	70	-	78	-	97	-	86,4	-	138,4
Assembly length	(mm)	G_1	104	100	110,5	110	145	132,5	152	132,5	186,8	230,6
Assembly screw	(ISO 4017)	H	6 x M16		6 x M16		6 x M20		6 x M20		6 x M24	
Tightening torque	(Nm)		225		308		490		620		620	
Moment of inertia**	(10^{-3}kgm^2)	$J_{ges.}$	106	134	168	207	371	453	716	853	1.062	1.463
Weight**	(kg)		19,5	24,7	25,3	32	45,4	56,5	62	75,4	75	108,3
Torsional stiffness disc packs	(kNm/rad)	C_T	2.000	1.000	2.500	1.250	3.600	1.800	7.700	3.850	16.000	8.000
Axial \pm	(mm)	max. values	1,3	2,5	1,3	2,5	1,3	2,5	1,5	3,0	1,5	4,0
Lateral \pm	(mm)		-	0,5	-	0,5	-	0,6	-	0,7	-	0,8
Angular \pm	(degree)		0,7	1,4	0,7	1,4	0,7	1,4	0,7	1,4	0,7	1,4
Max. speed	(min^{-1})		2.900		2.700		2.400		2.100		1.900	
Max. speed (balanced)***	(min^{-1})		6.700		6.300		5.600		4.900		4.500	

ORDERING CODE EXAMPLE

"DISC-TPRD-S / SIZE / BORE 001 / BORE 002"

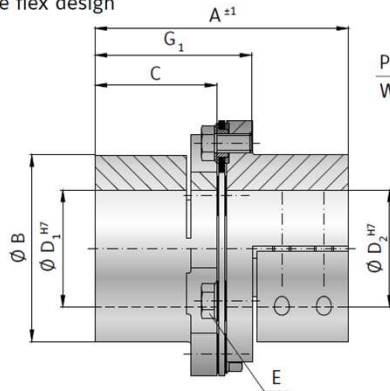




DIMENSION CLAMP DISC-CLMP STANDARD

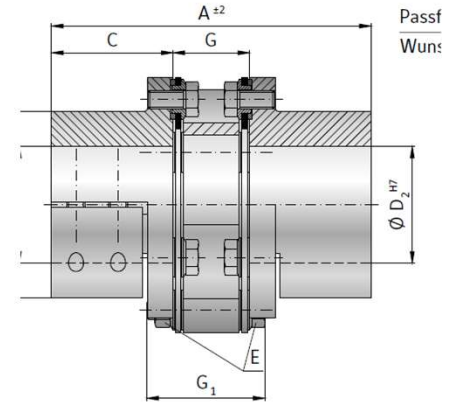
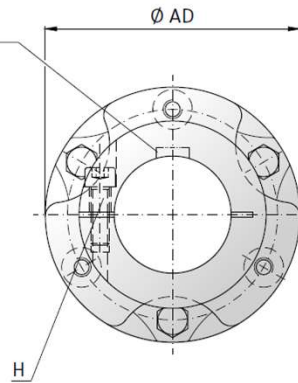
"DISCUS" Series

S = single flex design



D = dual flex design

Passfedernut auf Wunsch möglich

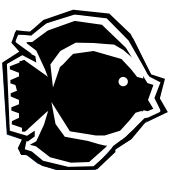


Passf Wuns

SIZE			300		500		700		1100		1600		2600	
Type			S	D	S	D	S	D	S	D	S	D	S	D
Rated torque	(Nm)	T_{KN}	350		500		700		1.100		1.600		2.600	
Maximum torque	(Nm)	T_{KNmax}	700		1.000		1.400		2.200		3.200		5.200	
Overall length	(mm)	A	95	123	113	141	134	172	151	192	178	224	189	236
Outside diameter	(mm)	$\varnothing AD$	99		109		128		133		150		168	
Hub diameter	(mm)	$\varnothing B$	72		80		89		95		103		122	
Hub fit length	(mm)	C	45		54		64		72		85		90	
Bore diameter available from \varnothing to $\varnothing H7$	(mm)	$D_{1/2}$	18 - 48		23 - 50		25 - 58		25 - 60		28 - 64		31 - 75	
Assembly screw (ISO 4017) Tensioning nut (DIN 4032)		E	M8		M8		M10		M10		M12		M12	
Tightening torque	(Nm)		35		40		65		95		150		165	
Distance between hubs	(mm)	G	-	33	-	33	-	44	-	48	-	54	-	56
Assembly length	(mm)	G_1	63	50,3	72	50,3	84	61,4	96,8	66,4	114,2	77,5	119	77,5
Assembly screw (ISO 4762)		H	4 x M6		4 x M8		4 x M8		4 x M10		4 x M12		4 x M14	
Tightening torque	(Nm)		18		34		39		73		120		192	
Moment of inertia**	($10^{-3}kgm^2$)	$J_{ges.}$	2	3	4	5	8	11	11	15	20	27	38	50
Weight**	(kg)		1,9	2,7	3	3,9	4,8	6,0	5,5	7,4	8,4	10,8	12,0	15,1
Torsional stiffness disc packs	(kNm/rad)	C_T	200	100	280	140	470	235	540	270	800	400	1.200	600
Axial \pm	(mm)	max. values	0,5	1,0	0,6	1,0	0,7	1,5	0,8	1,5	1,0	2,0	1,1	2,0
Lateral \pm	(mm)		-	0,2	-	0,2	-	0,3	-	0,3	-	0,4	-	0,4
Angular \pm	(degree)		0,7	1,4	0,7	1,4	0,7	1,4	0,7	1,4	0,7	1,4	0,7	1,4
Max. speed	(min^{-1})		5.800		5.200		4.500		4.300		3.850		3.500	
Max. speed (balanced)***	(min^{-1})		13.500		12.300		10.500		10.000		8.950		8.000	

ORDERING CODE EXAMPLE

"DISC-CLMP-S / SIZE / BORE 001 / BORE 002"

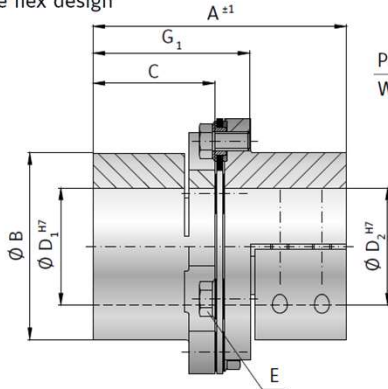




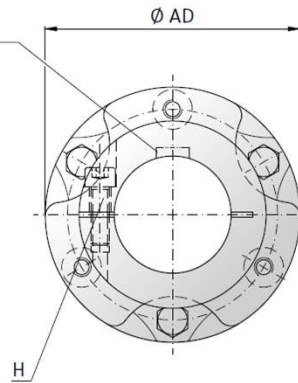
DIMENSION CLAMP DISC-CLMP STANDARD

"DISCUS" Series

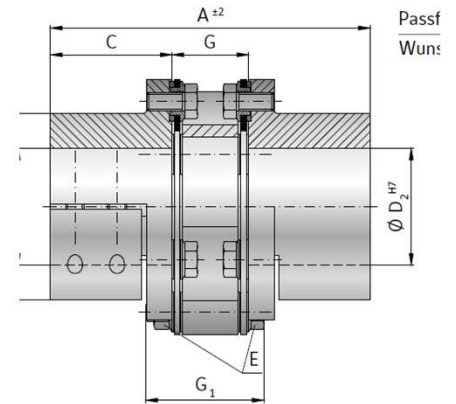
S = single flex design



Passfedernut auf Wunsch möglich



D = dual flex design

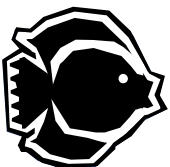


Passfedernut auf Wunsch möglich

SIZE			4000		6000		8000		15000	
Type			S	D	S	D	S	D	S	D
Rated torque	(Nm)	T_{KN}	4.000		6.000		8.000		15.000	
Maximum torque	(Nm)	T_{KNmax}	8.000		12.000		16.000		30.000	
Overall length	(mm)	A	217	274	237	302	268	349	324,7	396,4
Outside diameter	(mm)	$\varnothing AD$	198		212		238		272	
Hub diameter	(mm)	$\varnothing B$	137		151		168		182	
Hub fit length	(mm)	C	102		112		126		155	
Bore diameter available from \varnothing to $\varnothing H7$	(mm)	$D_{1/2}$	38 - 90		39 - 95		50 - 102		70 - 120	
Assembly screw Tensioning nut	(ISO 4017) (DIN 4032)	E	M16		M16		M20		M20	
Tightening torque	(Nm)		360		400		755		770	
Distance between hubs	(mm)	G	-	70	-	78	-	97	-	86,4
Assembly length	(mm)	G_1	142,1	100	152,1	110	176	132,5	205,4	132,5
Assembly screw	(ISO 4762)	H	4 x M14		4 x M16		4 x M20		4 x M18	
Tightening torque	(Nm)		246		395		615		500	
Moment of inertia**	($10^{-3}kgm^2$)	$J_{ges.}$	75	103	110	149	208	291	392	530
Weight**	(kg)		17,3	22,5	22,5	29	34,1	44,8	49,3	62,8
Torsional stiffness disc packs	(kNm/rad)	C_T	2.000	1.000	2.500	1.250	3.600	1.800	7.700	3.850
Axial \pm	(mm)	max. values	1,3	2,5	1,3	2,5	1,3	2,5	1,5	3,0
Lateral \pm	(mm)		-	0,5	-	0,5	-	0,6	-	0,7
Angular \pm	(degree)		0,7	1,4	0,7	1,4	0,7	1,4	0,7	1,4
Max. speed	(min^{-1})		2.900		2.700		2.400		2.100	
Max. speed (balanced)***	(min^{-1})		6.700		6.300		5.600		4.900	

ORDERING CODE EXAMPLE

"DISC-CLMP-S / SIZE / BORE 001 / BORE 002"





SECTION 1: APPLICABILITY

1.1 These terms & conditions (the "Terms and Conditions") of sale are applicable to all quotations for the sale or orders for the purchase of all equipment or goods (the "Products") made by or for Fangtooth Inc 11970 Mayfield St. Livonia MI 48150 ("Company".)

1.2 Unless otherwise agreed, written quotations are valid for 30 days from the date of quotation. All price lists and discounts are subject to change without notice.

1.3 All orders placed by the Buyer are subject to written acceptance by the Company. No contract between Buyer and Company shall exist prior to the time of such acceptance by the Company.

1.4 These Terms & Conditions supersede all prior written terms, understandings, purchase orders, assurances and offers. Company shall not be deemed to have waived these Terms & Conditions if it fails to object to the conditions appearing in or attached to a purchase order issued by Buyer. Buyer's acceptance of the Products or services furnished by the Company shall constitute its acceptance of these Terms & Conditions.

SECTION 2: PRICE & SHIPPING DATES

2.1 All orders must be bona fide commitments showing a complete description of equipment, quantity, price & shipping dates required by the Buyer.

2.2 Timely performance by Company is contingent upon Buyer supplying to Company, when applicable, all required technical information and data, including drawing approvals, and all required commercial documentation. Shipping dates are subject to final confirmation or change by Company and are based on prompt receipt of all necessary information regarding the order. Unless otherwise indicated, all delivery dates specified by the Company are estimated time frames and time is not of the essence in Company's performance of the sale of the Products.

2.3 If shipment is delayed for thirty (30) days or more from the delivery date accepted by the Company for reasons attributable to the Buyer and provided that the Buyer shall have no other liability to the Company in respect of such delay, the reasonable direct costs of putting the Products into storage at a facility off-site of Company's premises until such times as they are shipped (or delivered) shall be the to the Buyer's account and at Buyer's sole risk.

SECTION 3: PAYMENT

Terms of payment are net 30 days from the date of invoice unless otherwise agreed in writing. Late payments may be subject to interest on the unpaid balance at the greater of 2% per month or the maximum rate permitted by law. No deductions or set-offs are to be made by Buyer from amounts due unless specifically authorized by the Company in writing. If in the judgment of the Company, the financial condition of Buyer at any time does not justify continuance of production or shipment on the terms of payment specified, the Company may require full or partial payment in advance.

SECTION 4: TAXES

The Company's prices do not include sales, use, excise taxes, tariffs, duties or value added or similar taxes or fees. The Company will add such taxes or fees to the invoice unless the Buyer provides Company with tax-exempt certificate acceptable to the applicable taxing authorities or arranges payment of such taxes or fees directly by the Buyer.

SECTION 5: WARRANTY

5.1 NEW PRODUCT – Company warrants the Products shall be free of defects in material and workmanship and meet the Product specifications for a period from the date of shipment as specified below.

5.1.a FANGTOOTH MAX straddle mounted pinion systems – 3 years.

5.1.b FANGTOOTH OPEN cantilevered pinion systems – 2 years.

5.1.c FANGTOOTH Any products not specified as standard including any units with non-standard coatings for corrosion claims – 1 year.

5.1.d FANGBOT integrated systems – FANGTOOTH MAX integrated into larger systems will carry the full 3 year warranty. FANGTOOTH OPEN integrated into larger systems will carry the full 2 year warranty. Custom (non-standard) engineered products within the larger systems or any other non-standard FANGTOOTH products will be warranties for 18 months.

5.2 Notwithstanding the warranty periods listed above, the warranty on normal wear items such as oil seals is limited to one year. The warranties of gearboxes, motors, brakes, couplings, linear rail, linear bearings, gear rack and pinion and all other add on items shall be the warranties provided by, and shall be the responsibility of, the original equipment manufacturer. The Company is not responsible for and does not warrant (a) equipment, components and/or material furnished by the Buyer; (b) the sufficiency of functionality of any design specifications furnished by the Buyer; nor shall Company be liable for defects or damages arising from the foregoing. Notwithstanding any other provision in these Terms and Conditions, none of the warranties given by the Company shall apply to products manufactured by others and sold by the Company. Buyer will at its own expense arrange for any dismantling and reassembly of any goods and equipment and the provision of all equipment (including without limitation lifting equipment and crane-age) to the extent that this is necessary to remedy the defect or facilitate re-performance of service.

Unless otherwise agreed, necessary transport of the Products and/or parts thereof to and from Company in connection with the remedying of defects will be at the risk and expense of the Buyer. Buyer will follow Company's instructions regarding such transport.

Unless otherwise agreed, Buyer will bear any additional costs which Company incurs as a result of the Products being located in a place other than the place of delivery.

Defective parts which have been replaced will be made available to Company and will be its property.

5.3 Any claims under this warranty must be made in writing to the Company at the address set forth above (or by email) within thirty (30) days of the discovery thereof. The

Company's obligation under this warranty shall be limited to the repair or replacement, at the Company's option, of the Product, or any part thereof, when the Company has determined the Product is not warranted; any Product or parts repaired or replaced pursuant to the warranty will be warranted for the remainder of the original warranty period. The Company shall not be responsible for any claims which the Company determines are due to improper installation, operation above rated capacity, exceeds L10 life cycles, operation at extreme conditions, normal wear and tear, accident, or because the Product has been used, adjusted, altered, handled, maintained, repaired or stored other than as directed by the Company.

5.4 This warranty shall not apply in the event of defects caused by: (i) physical abuse of the Products or any component, or acts of vandalism by any persons other than Company; (ii) alterations, modifications, additions, or repairs made during the applicable warranty period by anyone other than Company, and its authorized employees, agents or subcontractors; (iii) accidents or damage resulting from fire, water, wind, hail, lightning, electrical surge or failure, earthquake, theft or similar causes not caused by the sole negligence of Company; (iv) damage as a result of corrosion or other damage caused by Buyer's failure to protect and maintain the Products in accordance with Company's written instructions and warnings; or (v) design specifications furnished by Buyer.

5.5 Buyer shall not rely upon Company's skill or judgement or furnish Products for any particular purpose beyond the specific express warranties provided herein. Buyer has the responsibility to determine whether the Products and specifications are fit for buyer's intended purpose. Company does not warrant the Products will comply with the requirements or any safety code or regulations, or with any environmental or other law or regulation. Buyer is responsible for the safe and lawful operation and use of the Products.

5.9 THE FOREGOING WARRANTIES ARE THE SOLE WARRANTIES PROVIDED BY COMPANY FOR THE PRODUCTS AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ALL OF WHICH ARE HEREBY DISCLAIMED AND EXCLUDED BY MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE. BUYER AGREES THAT ITS SOLE AND EXCLUSIVE REMEDY AGAINST COMPANY WILL BE LIMITED TO THE REPAIR AND REPLACEMENT OF NONCONFORMING OR DEFECTIVE PRODUCTS PROVIDED COMPANY IS PROMPTLY NOTIFIED IN WRITING OF ANY DEFECT. THIS EXCLUSIVE REMEDY WILL NOT BE DEEMED TO HAVE FAILED OF ITS ESSENTIAL PURPOSE SO LONG AS COMPANY IS WILLING TO REPAIR OR REPLACE THE NONCONFORMING OR DEFECTIVE PRODUCTS.

SECTION 6: OWNERSHIP OF INTELLECTUAL PROPERTY

Company retains ownership and all rights to its intellectual property. Buyer shall have no rights to Company's intellectual property. Any intellectual property developed by Company and arising in connection with the supply of Products hereunder shall be deemed property of Company, and Company shall have exclusive rights to the use and ownership of such intellectual property.

SECTION 7: THIRD PARTY INTELLECTUAL PROPERTY CLAIMS

Company shall pay costs and damages finally awarded in any suit against Buyer by a third party to the extent based upon a finding that the design or construction of the Products as furnished infringes a patent or other third party intellectual property rights (except infringement occurring as a result of incorporating a design or modification at Buyer's request), provided that Buyer promptly notifies Company of any charge of infringement, and Company is given the right at its expense to settle such charge and to defend or control the defense of any suit based upon such charge. Company shall have no obligation hereunder with respect to claims, suits or proceedings, resulting from or related to, in whole or in part, (i) the use of software or software documentation, (ii) compliance with Buyer's specifications, (iii) the combination with other products, or modification of, the Products after delivery by Company, or (iv) the use of the Products, or any part thereof, in the practice of a process. THIS SECTION SETS FORTH COMPANY'S ENTIRE LIABILITY WITH RESPECT TO PATENTS OR OTHER INFRINGEMENTS OF INTELLECTUAL PROPERTY.

SECTION 8: RETURN OF PRODUCTS

In the event that the Buyer does not accept the Products, the Buyer must apply for authorization from the Company before returning the Products to the Company for credit. The Company will advise the Buyer of the credit to be allowed and necessary restocking charges on the unused material, subject to the Company's inspection and acceptance when received. No material should be returned to the Company except upon receipt of written authorization. In addition to the usual restocking charges, the Buyer must pay the actual transportation expense of the Company, plus all return transportation costs. Motors and specially designed parts will not be accepted for return or credit.

SECTION 9: DELIVERY, TITLE AND RISK OF LOSS

The Products will be delivered Ex Works – Fangtooth Inc's facility (in accordance with Incoterms 2010) unless otherwise agreed in writing by Company. The Buyer will be responsible for making all shipping arrangements, and Buyer will provide sufficient notice and details of such arrangements to allow Company to prepare the Products for delivery. Title and risk of loss will remain with Company and not pass to Buyer until delivery to the Incoterm delivery point.

SECTION 10: FORCE MAJEURE

Company will not be deemed to be in default or otherwise responsible for delays or failures in performance resulting from acts of God: acts of war, or civil disturbance, terrorism, epidemics, governmental action or inaction, fires, floods, earthquakes, tornadoes, or other events beyond Company's reasonable control (a "Force majeure Event"). A Force Majeure Event affecting Company's vendors shall also be deemed as a Force Majeure Event for the Company, provided that the Company shall use commercially reasonable efforts to mitigate any delays caused by its vendor's Force Majeure situation. Company shall in such instances give notice of the non-performance (including its anticipated duration) to the Customer promptly after becoming aware that it has occurred or will occur. In no event shall lack of finances or ability to pay as a result of the financial condition of either party be considered a Force Majeure Event.

SECTION 11: CANCELLATION

Upon written acceptance of an order by the Company, Buyer may not cancel or terminate for convenience, or direct suspension of manufacture, except with Company's written consent and then only upon terms that will compensate Company for its engineering, fabrication and purchasing charges and any other costs relating to such cancellation, termination, or suspension, plus a reasonable amount for profit and overhead.

SECTION 12: ETHICAL BUSINESS PRACTICES

Company requires manufacturing and business practices that are compliant with all applicable laws and regulations, including, the need to conduct all transactions in compliance with ethical business practices. Both the Company and the Buyer agree that neither of them nor their employees, agents, representatives, or other intermediaries will engage in any activity that may be construed to be in violation of their respective codes of ethical business practices or applicable law. Buyer acknowledges and agrees that it shall not, in regards to the sale or resale of the Company's products, make any payment or transfer of value to any third party (including through any or multiple intermediaries) that would cause either the Buyer, Company or any of Company's affiliates to violate either the U.S. Foreign Corrupt Practices Act or any other applicable anti-corruption laws. Buyer shall indemnify and hold Company and Company's affiliates harmless in the even of any breach of this paragraph by buyer or any of its intermediaries.

SECTION 13: LIMITATION OF LIABILITY

NEITHER COMPANY AND ITS AFFILIATES AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, INSURERS AND ATTORNEYS SHALL BE LIABLE, WHETHER IN CONTRACT, WARRANTY, FAILURE OF A REMEDY TO ACHIEVE ITS INTENDED OR ESSENTIAL PURPOSES, TORT (INCLUDING LOSS OF USE, REVENUE OR PROFIT, OR FOR COSTS OF CAPITAL OR OF SUBSTITUTE USE OR PERFORMANCE, OR FOR INDIRECT, SPECIAL, LIQUIDATED, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR ANY OTHER LOSS OR COST OF SIMILAR TYPE, OR FOR OTHER CLAIMS BY BUYER FOR ANY DAMAGES OR LOSSES. COMPANY'S MAXIMUM LIABILITY FOR ALL CLAIMS AND LOSSES ARISING OUT OF THE MANUFACTURE OR SALE OF THE PRODUCTS SHALL BE THE PRICE CONFIRMED BY THE COMPANY RELATING TO THE INDIVIDUAL SALE TRANSACTION WITH THE BUYER. BUYER AND COMPANY AGREE THAT THE EXCLUSIONS AND LIMITATIONS SET FORTH IN THIS SECTION ARE SEPARATE AND INDEPENDENT FROM ANY REMEDIES WHICH BUYER MAY HAVE HEREUNDER AND SHALL BE GIVEN FULL FORCE AND EFFECT WHETHER OR NOT ANY OR ALL SUCH REMEDIES SHALL BE DEEMED TO HAVE FAILED OF THEIR ESSENTIAL PURPOSE.

SECTION 14: GOVERNING LAW

The terms of the sales of the Products shall be governed and controlled in all respects by the laws of the State of Michigan and all disputes, including interpretation, enforceability, validity, and construction, shall be determined under the law of the State of Michigan without regard to any conflict of law provisions. Any dispute arising between the parties will be finally resolved in the state or federal courts of Michigan. Each party consents to personal jurisdiction in the state and federal courts of the State of Michigan for any all matters related to or arising out of the sale, attempted sale, delivery, warranty, maintenance or use of the Products, and agrees that personal jurisdiction in any such court will be deemed proper. Buyer shall be liable to Company for any attorney fees and costs incurred by Company in enforcing any of its rights hereunder.

SECTION 15: STATUTE OF LIMITATIONS

To the extent permitted by applicable law, any lawsuit for breach of contract, including breach of warranty, arising out of the transactions covered by this Purchase Order, must be commenced not later than twelve (12) months from the date the cause of action accrued.

SECTION 16: CHANGES IN LAWS AND REGULATIONS

Company's prices and timely performance are based on all applicable laws, rules, regulations, orders, codes, standards or requirements of governmental authorities effective on the date of Company's proposal. Any applicable change to the forgoing shall entitle Company to an equitable adjustment in the prices and time of performance.

SECTION 17: COMPLIANCE WITH EXPORT LAWS AND REGULATIONS

Certain Products manufactured by Company, as well as technical data related thereto, may be subject to export licensing controls under the U.S. Export Administration Regulations and/or the U.S. International Traffic in Arms Regulations, which require licensing for and/or prohibit the export or diversion of the Company's products to certain countries. If Buyer is responsible for obtaining export approvals. Buyer warrants that it will not assist or participate in any export of the Company's products or related technical data without first obtaining the required export license and will not knowingly assist or participate in any such diversion or other violation of applicable U.S. laws and regulations. If Company is responsible for obtaining export approvals, Buyer shall assist the Company, as necessary, in obtaining such approvals. Buyer shall indemnify and hold the Company and its affiliates harmless from any losses or claims arising out of or related to Buyer's failure to comply with applicable export control laws and regulations.

SECTION 18: COMPLIANCE WITH LAWS

Buyer agrees to comply with all applicable local, state, Federal and Foreign laws, orders, directives, and regulations at any time in effect, including, but not limited to, those found in 41 CFR 60 requiring equal opportunity and affirmative action without regard to race, color, religion, sex, national origin, presence of disability or status as a special disabled veteran or Vietnam era veteran, which specifically incorporated herein by reference. If Buyer fails to comply with the provisions of this paragraph, Company may, by written notice to Buyer, terminate any Order for Buyer's default in addition to exercising any other rights or remedies provided by law.

SECTION 19: RELATIONSHIP OF THE PARTIES

Buyer and Company are independent contractors, and nothing in the contract makes either party the agent or legal representative of the other party for any purpose. Neither party has authority to assume or to create any obligation on behalf of the other party.

SECTION 20: WAIVER

The failure of Company to enforce any right or remedy provided in contract or by law on a particular occasion will not be deemed a waiver of that right or remedy on a subsequent occasion or a waiver of any other right or remedy.

SECTION 21: SEVERABILITY

A finding that any provision in these Terms & Conditions or an accepted purchase order is invalid or unenforceable in any jurisdiction will not affect the validity or enforceability of any other provision of these Terms & Conditions or an accepted purchase order or the validity or enforceability of that provision in any other jurisdiction.

SECTION 22: ASSIGNMENT and DELEGATION

No right or interest in the sale of Products hereunder shall be assigned by the Buyer without written permission of the Company. No delegation of any obligation owed, or the performance of any obligation by the Buyer, shall be made without the written permission of the Company. Any attempted assignment of delegation shall be wholly void and totally ineffective for all purposes unless made in conformity with this section. Company shall have the right to assign its obligations to any affiliate of the Company or any successor to substantially all the business or assets of the Company.

SECTION 23: THIRD PARTY RIGHTS

Notwithstanding any provision of law, no third party (including Buyer's customer) shall have the right to enforce these Terms & Conditions or any other contractual rights against Company or its affiliates.

SECTION 24: HEADINGS

The headings of the various paragraphs of these Terms & Conditions have been inserted for convenient reference only and shall not to any extent have the effect of modifying, amending, or changing the expressed terms and provisions hereof.

SECTION 25: ENTIRE AGREEMENT

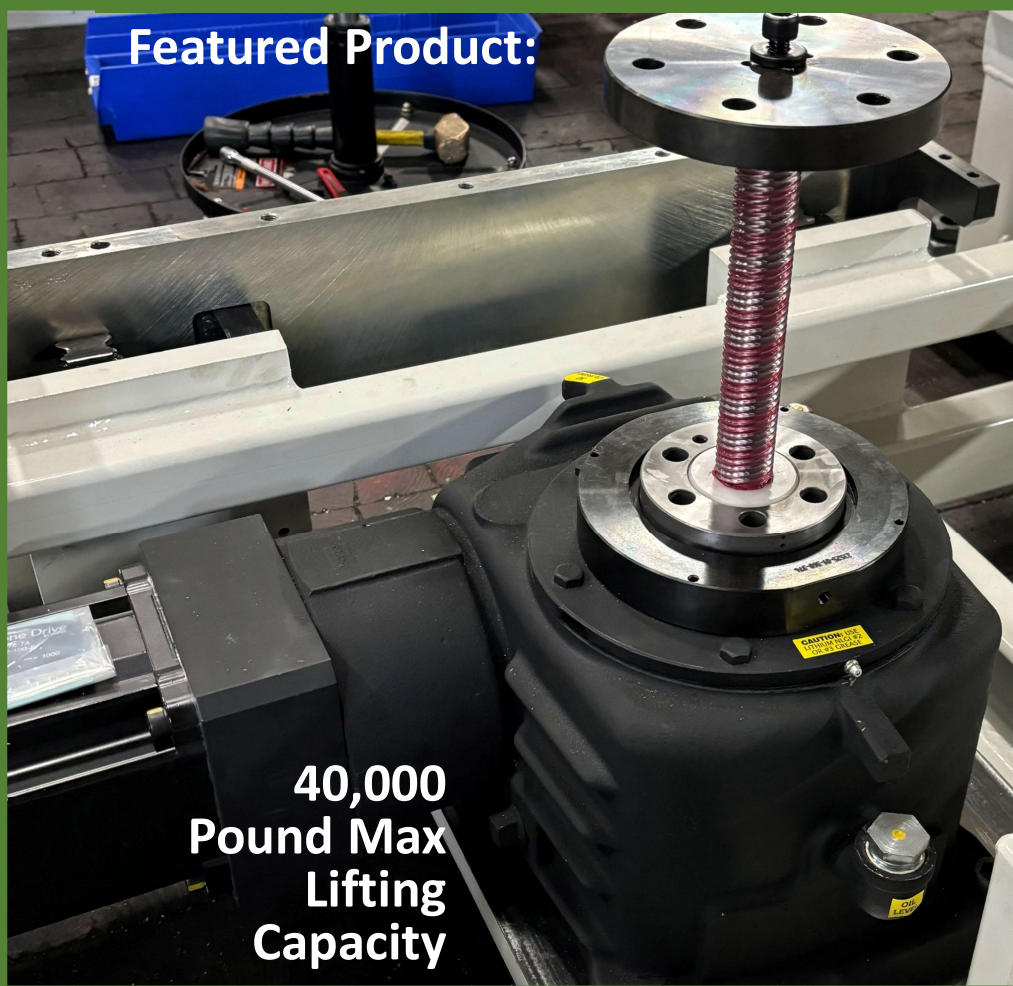
These Terms & Conditions, including any attachments hereto, constitutes the entire understanding and agreement between the parties and supersedes any prior oral or written agreements with respect to the subject matter hereof. No course of prior dealings between the and the Buyer, and no usage of the trade shall be relevant to supplement or explain and term used herein. Acceptance or acquiescence in a course of performance rendered hereunder shall not be relevant to determine the meaning of these Terms & Conditions even though the accepting or acquiescing party has knowledge of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code is used herein, the definition contained in the Uniform Commercial Code shall control



fang

TOOTH

Featured Product:



40,000
Pound Max
Lifting
Capacity



Fangtooth Inc.
11790 Mayfield St
Livonia, MI 48150
Ph 248-798-4877

fang TOOTH

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WITH TEETH

ACTUATORS



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CUSTOM
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