

Natural rubber WingLock™ element

- Finite-Element optimized flexible design, featuring WingLock technology
- Higher bond strength, improved fatigue resistance, and documented longer life
- Industry leading misalignment capabilities
- Torque range up to 38,438 Nm

Easier installation & reduced maintenance

- Slotted clamp ring holes offer 187% more hardware clearance
- Split element for easy replacement
- Drop-in interchange without any modifications or additional materials
- Maintenance free element



Longer driven equipment life

- Rigorously tested to 10x DIN 741 coupling standards
- Significantly lower torsional and bending stiffness
- Up to 16.7x increase in connected L10 bearing life
- ISO class 10.9 hardware offers a 40% increase in proof strength

Flexible mounting options

- Close-coupled and spacer designs for a wide range of shaft gaps
- Interchangeable hubs for reduced inventory
- Finished bore hubs with setscrew locking for easy installation
- Taper-Lock bushed hubs for clean, compact installation
- Bores up to 220 mm

ENGINEERED FOR LONGER LIFE AND IMPROVED RELIABILITY

The Dodge Raptor features patented WingLock technology, a finite-element optimized winged elastomeric design that provides longer driven equipment life and improved reliability. WingLock technology increases surface area in the most critical regions of the element, resulting in higher bond strength, improved fatigue resistance, and longer life versus competitive urethane designs. A non-lubricated natural rubber element results in lower stiffness, improved vibration damping, and industry leading misalignment capabilities.

SUPERIOR NATURAL RUBBER ELEMENT

- The Raptor features a flexible natural rubber element that offers a number of performance benefits versus competitive urethane designs.
- Static conductive for grounding redundancy, allows current to safely pass through the element, preventing the possibility of arcing during operation

- Exceptional resistance to hydrolysis, for improved performance in humid conditions
- Superior thermal conductivity and ability to dissipate heat

DOCUMENTED PERFORMANCE

Comparative benchmark testing confirms the performance improvement associated with Raptor's WingLock element design. Even under worst-case misalignment and torque conditions, test results show that the Raptor lasts up to six times longer than the closest competitor.

LONGER DRIVEN EQUIPMENT LIFE

- Leveraging over 50 years of expertise, the Raptor features a natural rubber element that is significantly more flexible than urethane designs.
- Approximately 50% lower torsional and bending stiffness

- Longer life for all types of equipment – including motors, pumps, compressors, and gearboxes
- Reduced connected equipment bearing loads yield up to a 16.7x increase in L10 bearing life
- Better shock damping and less vibration

EASIER INSTALLATION AND REDUCED MAINTENANCE

- The Dodge Raptor has everything needed for easier installation and reduced maintenance costs
- Split element for easy replacement without moving and re-aligning connected equipment
- Slotted clamp ring holes offer 187% extra mounting clearance versus competitor's designs
- 50% lower torsional stiffness makes the element significantly easier to manipulate by hand during installation
- Maintenance free non-lubricated natural rubber element for trouble-free operation.

EASY AS 1-2-3

Installing Dodge Raptor couplings is quick and easy. The Raptor's horizontally split element doesn't require locking shafts during installation, meaning a faster installation that requires fewer tools and eliminates shaft damage. Simply fasten the shaft hubs, install the element, and tighten the hardware.



STEP 1 – Install hubs



STEP 2 – Set shaft spacing



STEP 3 – Install element

EXAMPLE OF DESIGNATION:

[Flexible coupling] – [M_n] – [d_1] / [l_1] – [d_2] / [l_2] – [RAPTOR] – [size] – [type] – [number of sleeves*] – [version*]

* only if applicable

name flexible coupling

M_n maximal torque [Nm]

d_1, d_2 hub holes diameters [mm](in case of order coupling without holes you should write "0", in case of pilot bores – "ow" and hub hole diameters – e.g.: "ow25")

l_1, l_2 hub holes length [mm]

type and size e.g.: E20


version WS... – special version (individual arrangements)

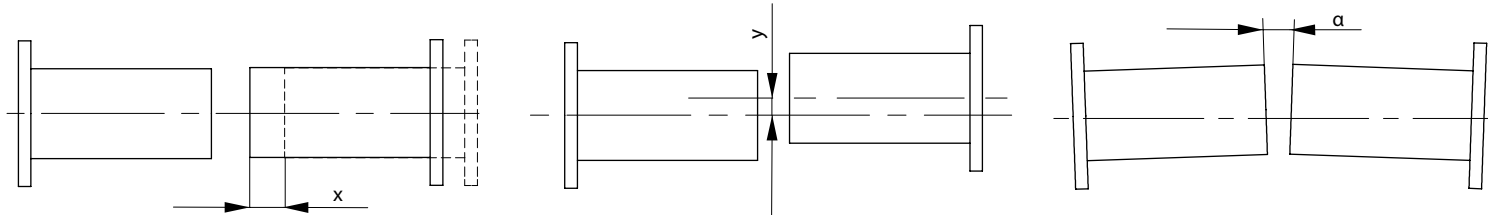
number of spacer sleeve – only in case of extended version ES, if not specified split element with two spacer sleeves is supplied

MATERIAL: hubs – steel, flexible element – natural rubber.

FLEXIBLE ELEMENT WORKING CONDITIONS: temperature from -43°C up to $+105^{\circ}\text{C}$.

APPLICATION IN POTENTIALLY EXPLOSIVE ATMOSPHERES:

 I M2 c
II 2 GD c 100°C (T5)

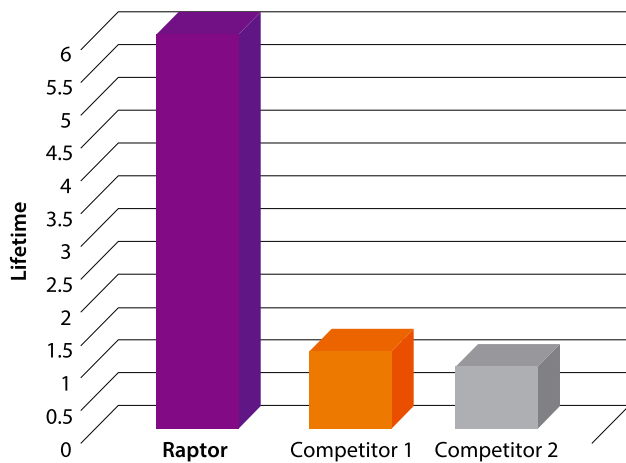


RAPTOR coupling size	Angular misalignment α [°]	Axial misalignment x [mm]	Parallel misalignment y [mm]
E2 ÷ E10	4°	7,94	4,76
E20 ÷ E50	3°		
E60 ÷ E80	2°		
E100 ÷ E140	1,5°		

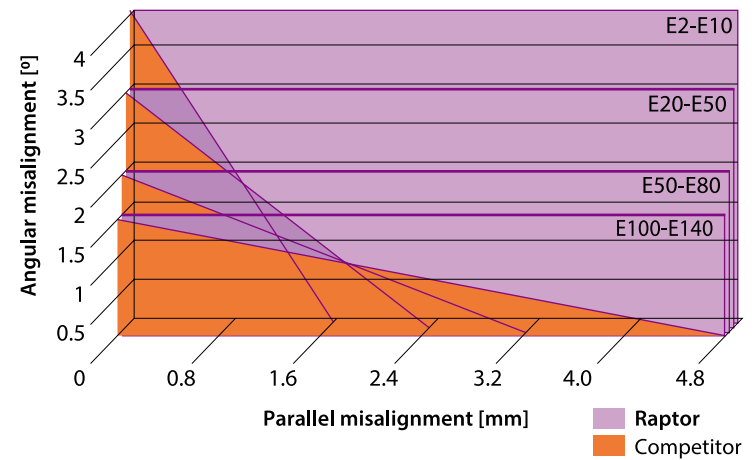
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DOCUMENTED PERFORMANCE

Results based on accelerated life testing at 1.5 × catalogued torque, while subject to 4° angular misalignment and 4,8 mm parallel misalignment.



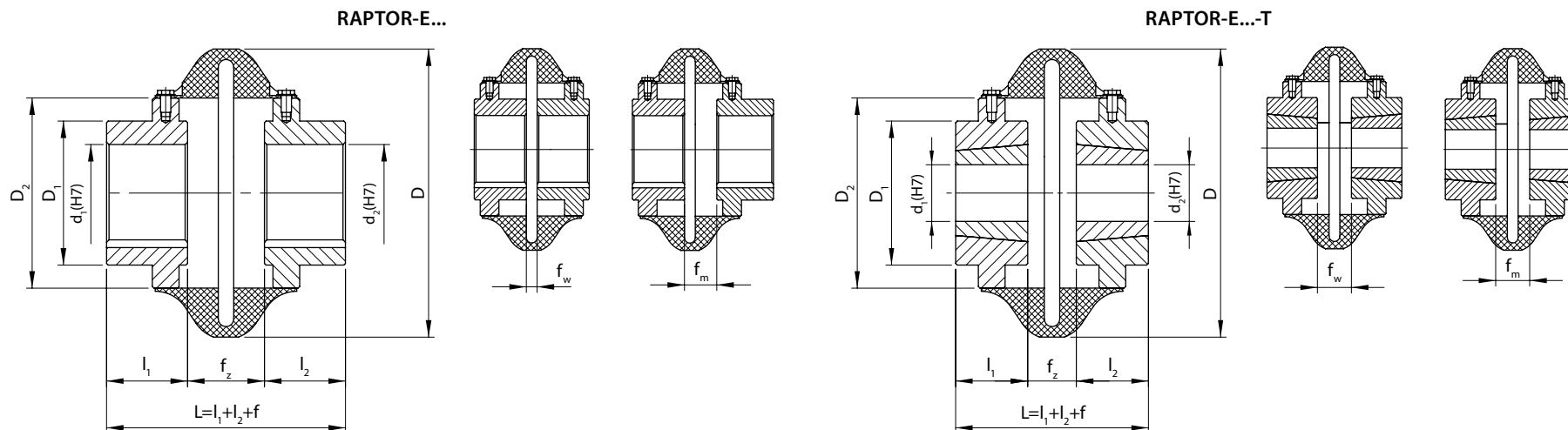
INDUSTRY LEADING MISALIGNMENT CAPABILITIES



FLEXIBLE COUPLINGS RAPTOR

Innovative flexible couplings

fena.pl



Type and size	Maximal torque M_n	Max. rotational speed n_{max}	RAPTOR-E...							RAPTOR-E...-T							D	D ₂			
			d ₁ , d ₂	l ₁ , l ₂		D ₁	f			Weight m ¹⁾	Clamping bush	d ₁ , d ₂	l ₁ , l ₂		D ₁	f			Weight m ¹⁾		
			max	nominal ⁴⁾	f _z		f _w	f _m	max			nominal	f _z	f _w		f _m					
																				mm	mm
-	Nm	1/min	mm							-	mm							mm			
E2	22	7500	28	24	42	48	34	41	0,6	-	-	-	-	-	-	-	-	-	89	47	
E3	42	7500	34	38	51	33	21	27	1,1	1008	25	22	51	43	43	43	1	102	59		
E4	63	7500	42	43	60	33	11	22	1,5	1008	25	22	57	43	43	43	1,3	116	66		
E5	105	7500	48	44	71	46	21	33	2,5	1210	32	22	71	56	56	56	2,2	137	80		
E10	165	7500	55	48	84	46	14	30	3,4	1610	35	25	84	52	52	52	2,9	162	93		
E20	261	6600	60	52	102	60	13	37	5,7	1610	42	25	89	64	64	64	4,2	184	114		
E30	413	5800	75	59	117	62	14	38	8,9	2012	50	32	102	65	65	65	6,7	210	138		
E40	622	5000	85	64	146	68	14	41	15,2	2517	65	44	118	60	60	60	10,8	241	168		
E50	865	4200	90	70	156	86	16	51	23,1	2517	65	44	125	76	76	76	15,9	279	207		
E60	1413	3800	105	83	165	87	18	52	32,4	3020	80	51	146	84	84	84	24,3	318	222		
E70	2501	3600	120	92	178	95	19	57	37,2	3535	95	89	165	60	60	60	35,2	356	235		
E80	4463	2000	155	124	241	127	19	73	76,8	4040	105	102	197	95	95	95	58,5	406	286		
E100	9610 ²⁾	1900	171	140	267	95	44	70	114,6	4535	125	89	267	152	89	152	115,2	533	359		
E120	19 220 ³⁾	1800	190	152	299	124	57	91	190,2	5040	127	102	299	181	102	181	194,1	635	448		
E140	38 438	1500	229	178	381	127	76	102	269,2	7060	180	152	381	178	76	178	323,4	762	530		

On request, we produce couplings in other configurations than shown.

We produce splineways as recommended, normally acc. to PN-70/M-85005, with the Js9 tolerance.

We produce the couplings with Taper-Lock bushed hubs (in case of finished bore hubs).

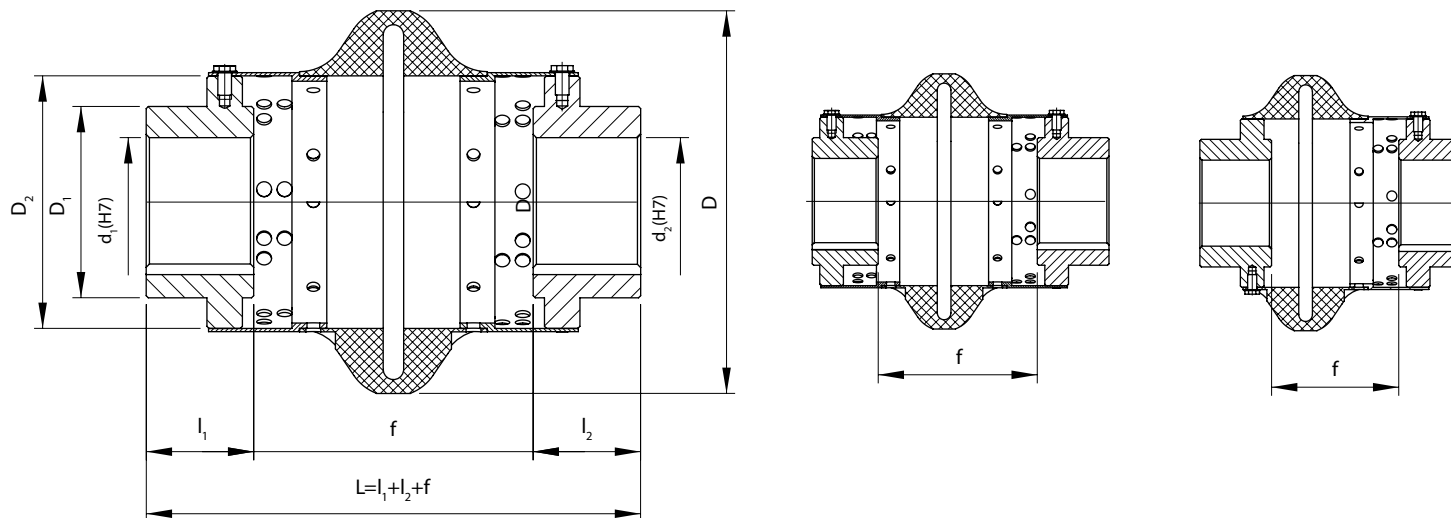
¹⁾ Weight for the coupling with the maximum holes and nominal lengths of the hubs.

²⁾ Torque for the version with clamping bushes – 9045 Nm.

³⁾ Torque for the version with clamping bushes – 14236 Nm.

⁴⁾ On request, we produce couplings with hub lengths different than the nominal.

RAPTOR-ES...



Type and size	Maximal torque M_n	Max. rotational speed n_{max}	RAPTOR-ES...				Weight $m^{1)}$	D	D ₁	D ₂		
			d_1, d_2		l_1, l_2						f	
			max	nominal ²⁾	min.	max					min.	max
-	Nm	1/min	mm					mm				
ES2	22	7500	28	24	89	100	0,8	89	42	47		
ES3	42	7500	34	38	89	140	1,7	102	51	59		
ES4	63	7500	42	43	89	140	2,3	116	60	66		
ES5	105	7500	48	44	89	140	3,5	137	71	80		
ES10	165	7500	55	48	89	140	4,7	162	84	93		
ES20	261	6600	60	52	89	180	7,9	184	102	114		
ES30	413	5800	75	59	89	180	12,2	210	117	138		
ES40	622	5000	85	64	100	180	19,8	241	146	168		
ES50	865	4200	90	70	100	180	29	279	156	207		
ES60	1413	3800	105	83	127	254	43	318	165	222		
ES70	2501	3600	120	92	178	254	48,2	356	178	235		
ES80	4463	2000	155	124	178	254	94,1	406	241	286		

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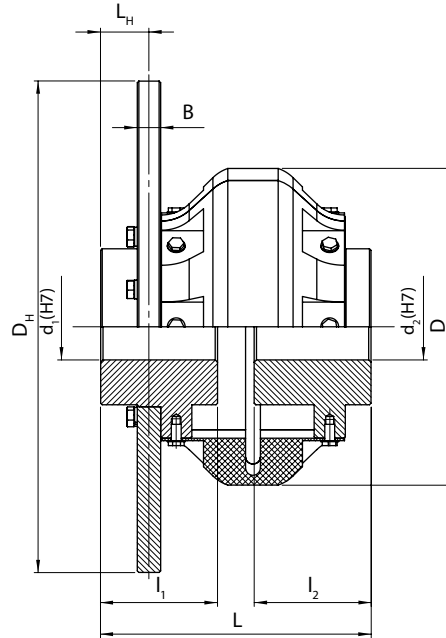
We produce the couplings with Taper-Lock bushed hubs (in case of finished bore hubs).

¹⁾ Weight for the coupling with the maximum holes and nominal lengths of the hubs and with 2 spacer sleeves.

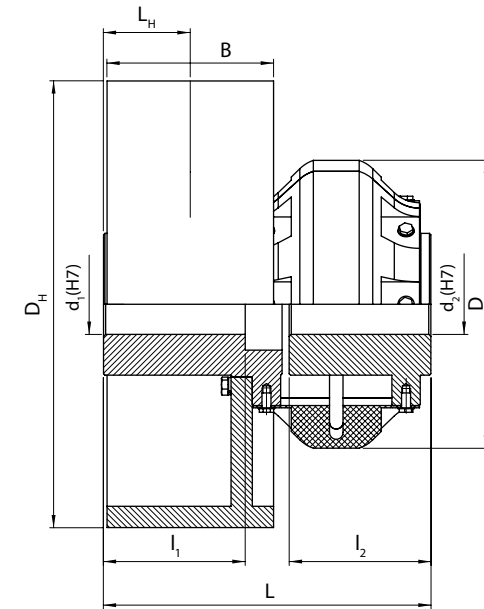
²⁾ On request, we produce couplings with hub lengths different than the nominal.

OTHER VERSIONS

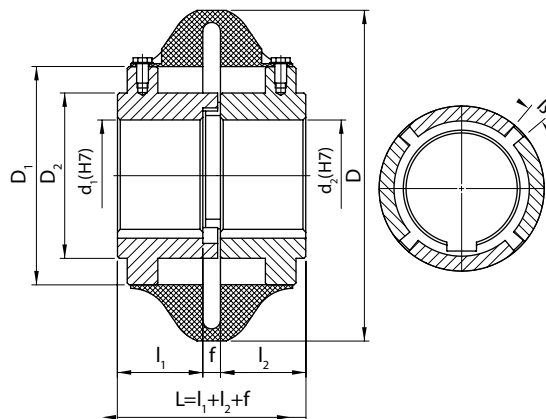
RAPTOR-E...-STH
(with brake disc)



RAPTOR-E...-SBH
(with brake drum)



RAPTOR-E...-OKS
(limiter of turning angle)



RAPTOR-E...-K
(flanges)

