

Stromag Vector® Couplings



Stromag

Founded in 1932, Stromag has grown to become a globally recognized leader in the development and manufacture of innovative power transmission components for industrial drivetrain applications. Stromag engineers utilize the latest design technologies and materials to provide creative, energy-efficient solutions that meet their customer's most challenging requirements.

Stromag's extensive product range includes flexible couplings, disc brakes, limit switches, an array of hydraulically, pneumatically, and electrically actuated brakes, and a complete line of electric, hydraulic and pneumatic clutches.

Stromag engineered solutions improve drivetrain performance in a variety of key markets including energy, off-highway, metals, marine, transportation, printing, textiles, and material handling on applications such as wind turbines, conveyor systems, rolling mills, agriculture and construction machinery, municipal vehicles, forklifts, cranes, presses, deck winches, diesel engines, gensets and stage machinery.



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Altra Industrial Motion

Altra is a leading global designer and manufacturer of quality power transmission and motion control products utilized on a wide variety of industrial drivetrain applications. Altra clutches and brakes, couplings, gearing and PT component product lines are marketed under the industries most well known manufacturing brands. Each brand is committed to the guiding principles of operational excellence, continuous improvement and customer satisfaction. Highly-engineered Altra solutions are sold in over 70 countries and utilized in a variety of major industrial markets, including food processing, material handling, packaging machinery, mining, energy, automotive, primary metals, turf and garden and many others.

Altra's leading brands include **Ameridrives**, **Bauer** Gear Motor, **Bibby** Turboflex, **Boston** Gear, **Delroyd** Worm Gear, **Formsprag** Clutch, **Guardian** Couplings, **Huco**, **Industrial** Clutch, **Inertia** Dynamics, **Kilian**, **Lamiflex** Couplings, **Marland** Clutch, **Matrix**, **Nuttall** Gear, **Stieber**, **Stromag**, **Svendborg** Brakes, **TB Wood's**, **Twiflex**, **Warner** Electric, **Warner** Linear and **Wichita** Clutch.

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Evolution of the Established

- Easy installation
- Highly flexible, progressive characteristics
- Large shaft displacements in all directions

The new Stromag Vector® coupling represents the next logical and consistent step in the evolution of our tried and tested GE rubber fabric coupling – a flexible coupling that has become successfully established on the market.

The new Vector® coupling concept is based on the experience we have gained from the most diverse application fields.

The result is a coupling that connects two shafts free of backlash. The coupling features a radial arrangement of segments in a compact design.

This facilitates installation and removal without the need to displace the drive units.

The capability of the highly flexible Stromag Vector® coupling to displace in all directions makes it ideal for applications on engines mounted on both rigid and flexible bearings. The coupling also exhibits progressive characteristics for the optimal configuration of the drive unit's vibration behaviour.

Our Experts will support you by TVA torsional vibrations analysis for your drivetrain.

Stromag Vector® Couplings

What can the Stromag Vector® do for you?

It is very compact

because its rubber-fabric elements exhibit a high power density

It minimizes your

costs because the special rubber-fabric elements enhance the service life of the Vector® coupling

It saves valuable working

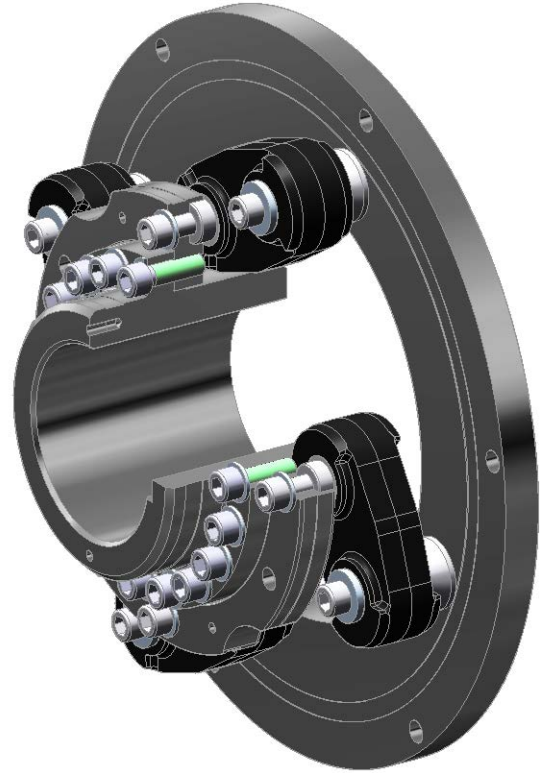
time because the elastomer elements radial mounting facilitates installation and removal without the need to displace the machine

It adjusts to your needs

because it can displace in all directions and can be installed easily on engines mounted on both rigid and flexible bearings

Add on features

compact design - outstanding ventilation - zero backlash - reduced installation times - low reactive forces



Technical data

Vector coupling size	Nominal torque		Maximum torque		Adm. alternating torque	Adm. Speed	Adm. axial displacement	Axial stiffness	Adm. radial displacement
	T_{KN} Nm	T_{Kmax1} Nm 1)	T_{Kmax2} Nm 2)	T_{Kw} Nm	n_{max} min^{-1}	ΔK_a mm	C_a kN/mm 3) 4)	ΔK_r mm 7)	
V...20	6600	13200	19800	3300	2300	8	0,56	4	
V...30	9900	19800	29700	4950	2300	8	0,84	4	
V...40	15000	30000	45000	7500	1800	9	0,85	5	
V...50	22500	45000	67500	11300	1800	9	1,3	5	

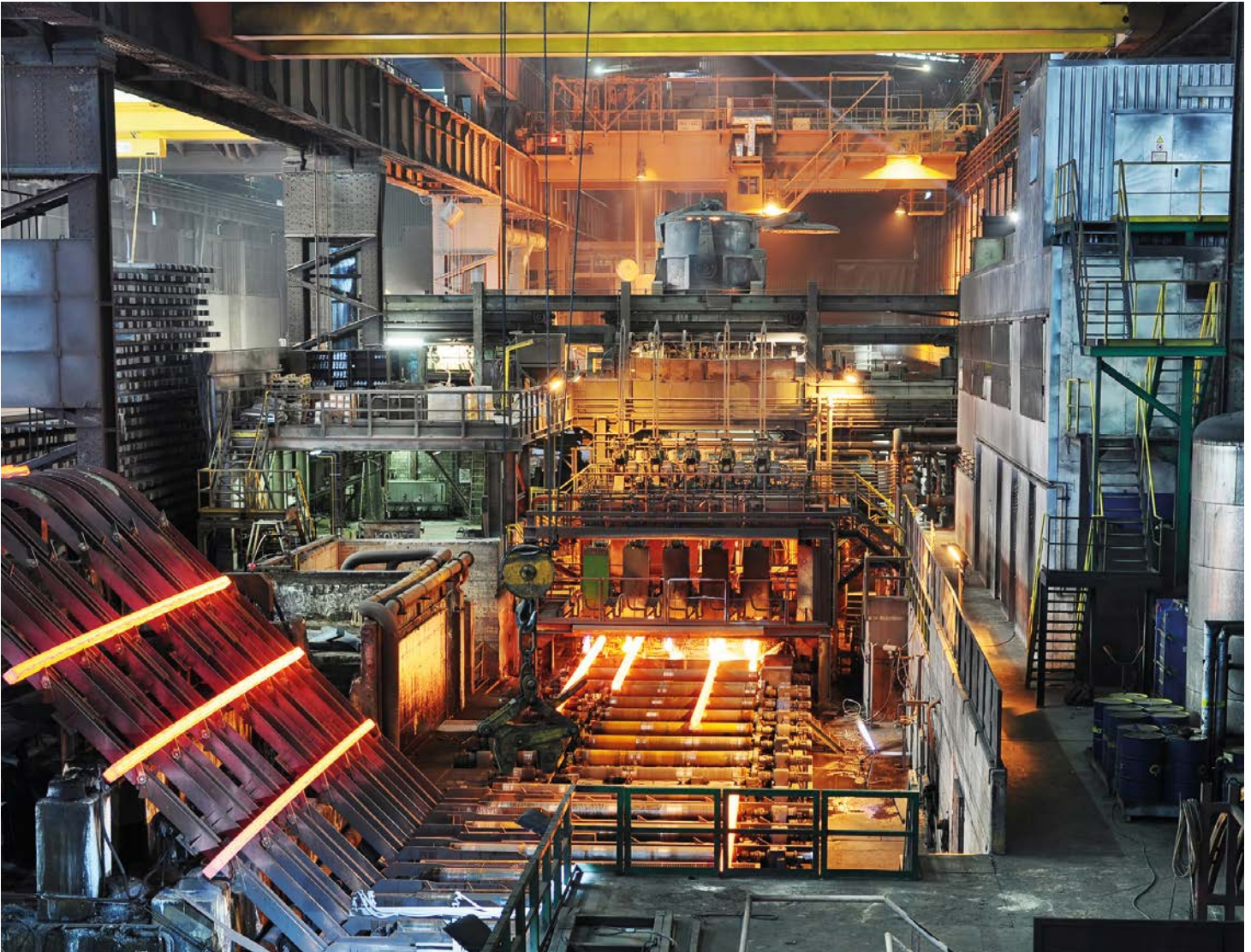
1) for transient repetitive vibrations during start / stop, clutching etc.

2) for rare occasional peak loads, e. g. short circuits in generators

3) Tolerances until $\pm 15\%$ related to the material are possible.

4) At torque T_{KN}

5) For: $T_w = 0.2 \cdot T_{KN}$; $f = 10 \text{ Hz}$; $\vartheta = 30^\circ\text{C}$



Adm. radial displacement	Radial stiffness	Torsional stiffness, depending on the preload					Relative damping	Adm. dumping power
$\Delta K_{r, \max}$ mm	C_r kN/mm 3) 4)	$C_{t, \text{dyn}}$ kNm/rad 3) 5)					ψ 3) 5)	$P_{KV, 60}$ 8)
		$T_{KN} \leq 0$ 6)	$0,2 \times T_{KN}$	$0,4 \times T_{KN}$	$0,8 \times T_{KN}$	$1,0 \times T_{KN}$		
8	1,6	24	62	144	206	234	0,8	840
8	2,4	36	93	216	310	352	0,8	1260
10	2,6	48	138	364	527	610	0,8	1000
10	3,9	72	207	546	790	915	0,8	1500

6) This value is constant for the torque range from 0 to $-0,3 \cdot T_{KN}$

7) At $n_{\max} = 600 \text{ rpm}$, for higher speed ratings:

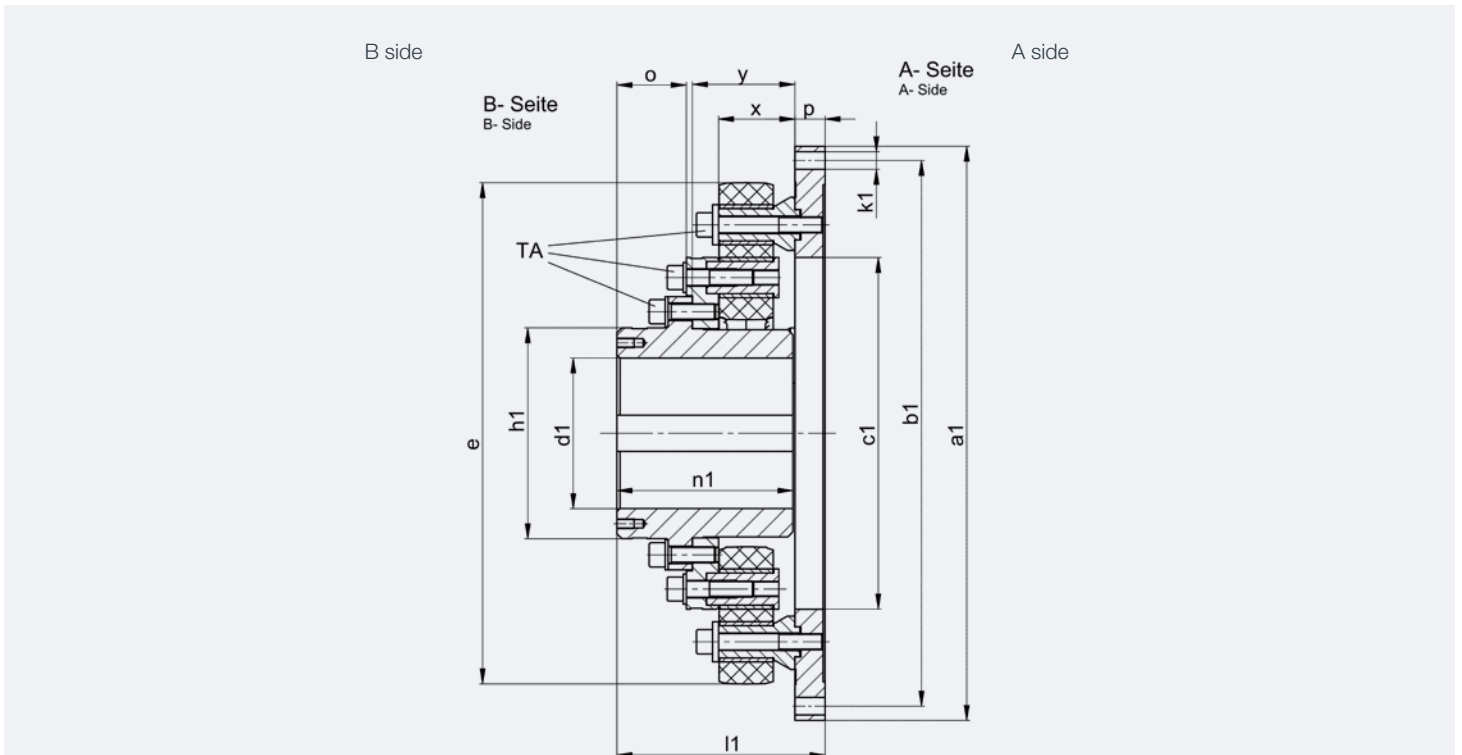
$$\Delta K_r(n) = \sqrt{\frac{600 \text{ min}^{-1}}{n}} \cdot \Delta K_r$$

8) The value $P_{KV, 60}$ describes the damping power to be absorbed over 60 minutes. Permanently absorbed damping power

$$P_{KV, \infty} = 0,5 \cdot P_{KV, 60}$$

Stromag Vector® Couplings

Series: VMF...W-K

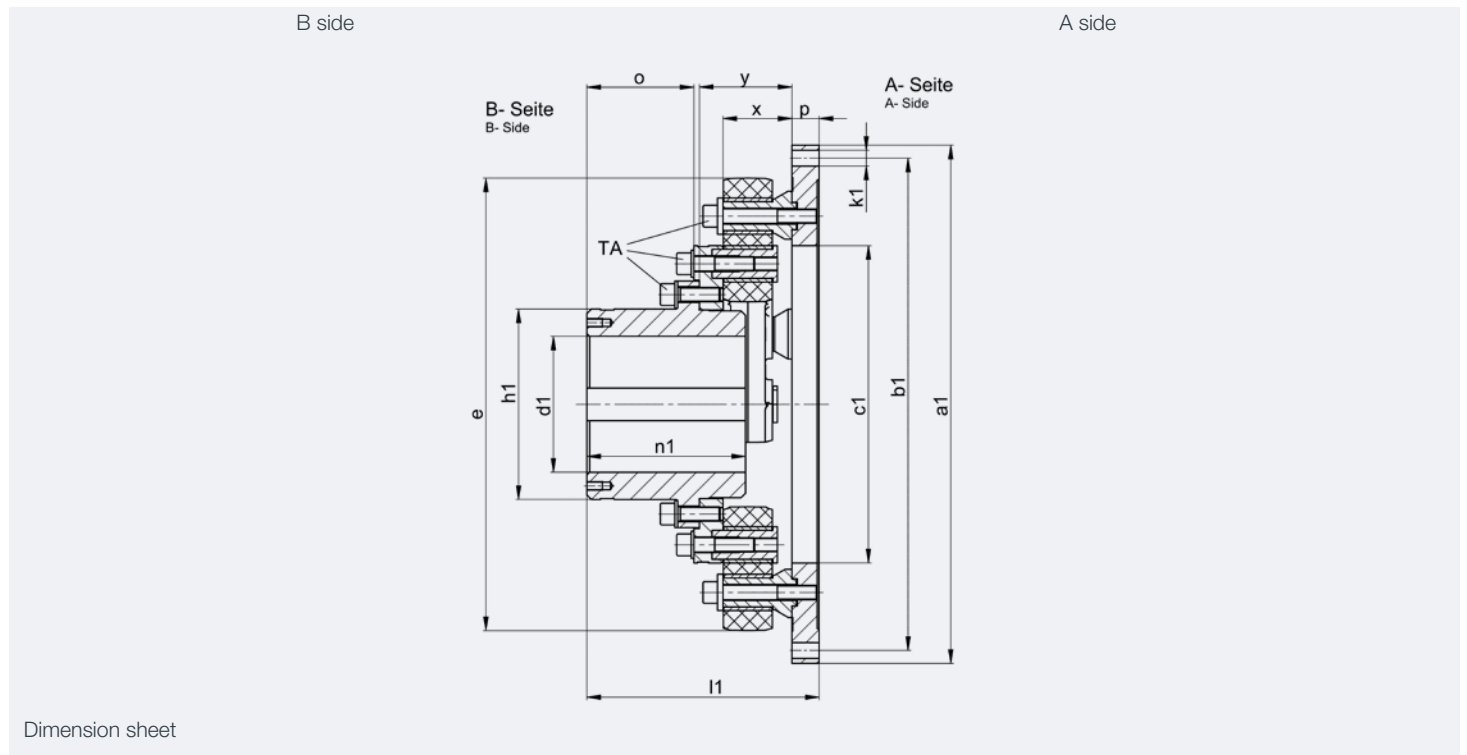


Coupling size	VMF 20 W 14"-K	VMF 20 W 18"-K	VMF 30 W 14"-K	VMF 30 W 18"-K	VMF 40 W 21"-K	VMF 40 W 24"-K	VMF 50 W 21"-K	VMF 50 W 24"-K
Diameter								
a1	466,7	571,5	466,7	571,5	673,1	733,4	673,1	733,4
b1	438,2	542,9	438,2	542,9	641,4	692,2	641,4	692,2
c1	350	350	350	350	480	480	480	480
e	499	499	499	499	660	660	660	660
h1	210	210	210	210	270	270	270	270
d1 _{max}	150	150	150	150	190	190	190	190
k1	8x 13,5	6x 17,5	8x 13,5	6x 17,5	12x 17,5	12x 20	12x 17,5	12x 20
Lengths: mm								
l1	207	207	207	207	262	262	262	262
n1	175	175	175	175	220	220	220	220
o	69	69	69	69	88	88	88	88
p	30	30	30	30	42	42	42	42
x	76	76	76	76	94	94	94	94
y	102	102	102	102	126	126	126	126
Mass: kg								
m *	67,4	84,8	71,9	89,3	160	172	168	180
Mass mom.of inertia: kgm ²								
JA side	1,001	2,225	1,109	2,333	5,133	6,683	5,497	7,047
JB side*	0,627	0,627	0,677	0,677	2,550	2,550	2,712	2,712

*) At max. bore dia.

Other coupling sizes on request

Series: VMF...W-L



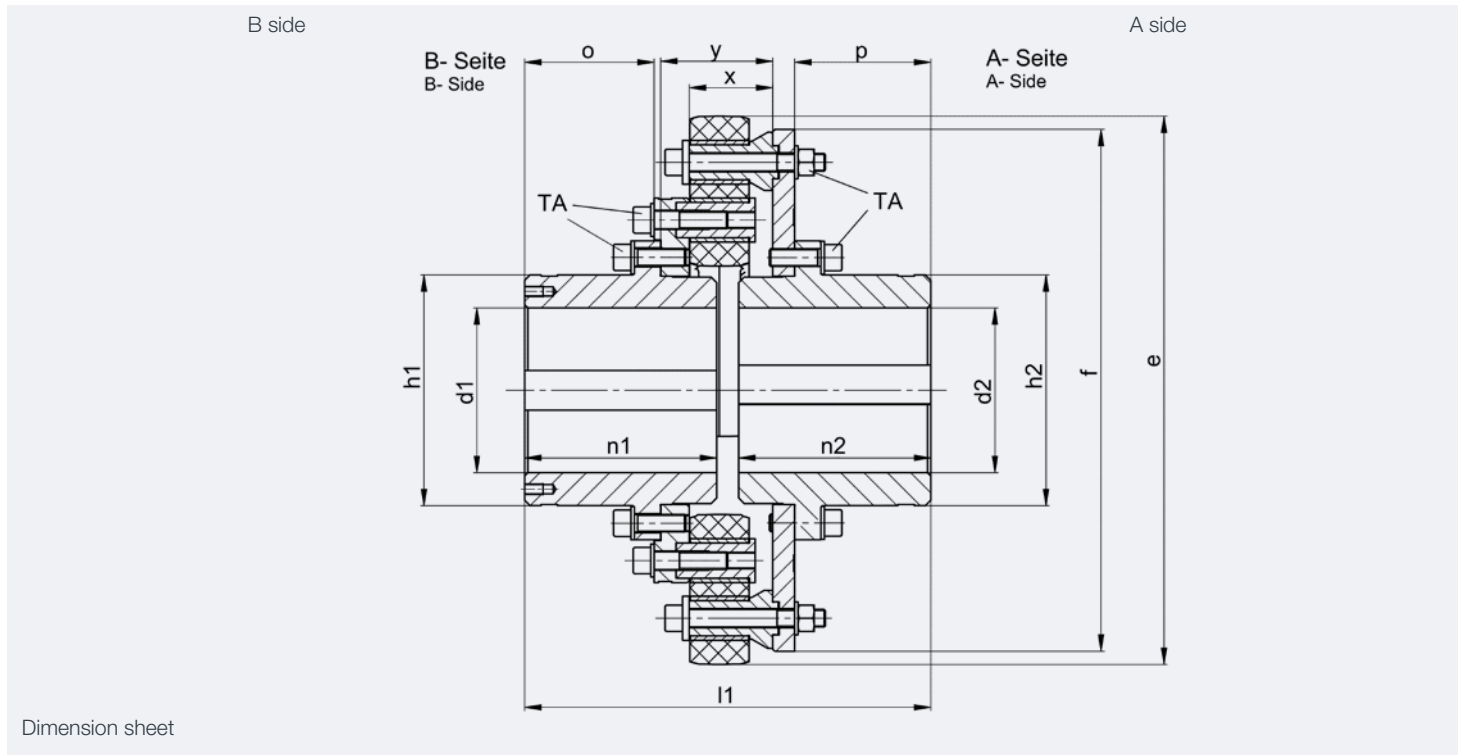
Coupling size	VMF 20 W 14"-L	VMF 20 W 18"-L	VMF 30 W 14"-L	VMF 30 W 18"-L	VMF 40 W 21"-L	VMF 40 W 24"-L	VMF 50 W 21"-L	VMF 50 W 24"-L
Diameter: mm								
a1	466,7	571,5	466,7	571,5	673,1	733,4	673,1	733,4
b1	438,2	542,9	438,2	542,9	641,4	692,2	641,4	692,2
c1	350	350	350	350	480	480	480	480
e	499	499	499	499	660	660	660	660
h1	210	210	210	210	270	270	270	270
d1 _{max}	150	150	150	150	190	190	190	190
k1	8x 13,5	6x 17,5	8x 13,5	6x 17,5	12x 17,5	12x 20	12x 17,5	12x 20
Lengths: mm								
l1	256	256	256	256	324	324	324	324
n1	175	175	175	175	220	220	220	220
o	118	118	118	118	150	150	150	150
p	30	30	30	30	42	42	42	42
x	76	76	76	76	94	94	94	94
y	102	102	102	102	126	126	126	126
Mass: kg								
m *	67,9	85,3	72,4	89,8	161	173	169	181
Mass mom.of inertia: kgm ²								
JA side	1,001	2,225	1,109	2,333	5,133	6,683	5,497	7,047
JB side *	0,632	0,632	0,682	0,682	2,565	2,565	2,727	2,727

*) at max. bore dia.

Other coupling sizes on request

Stromag Vector® Couplings

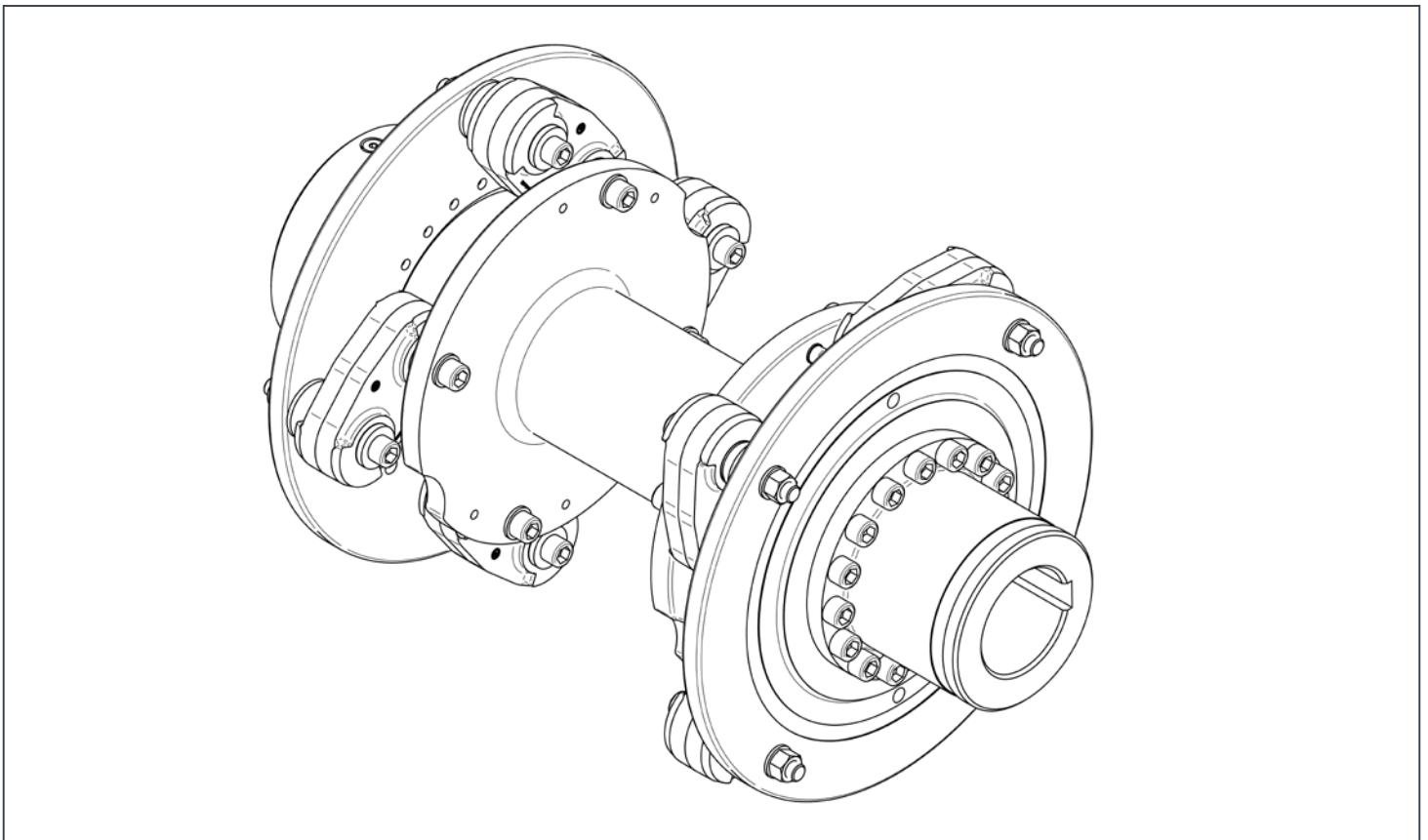
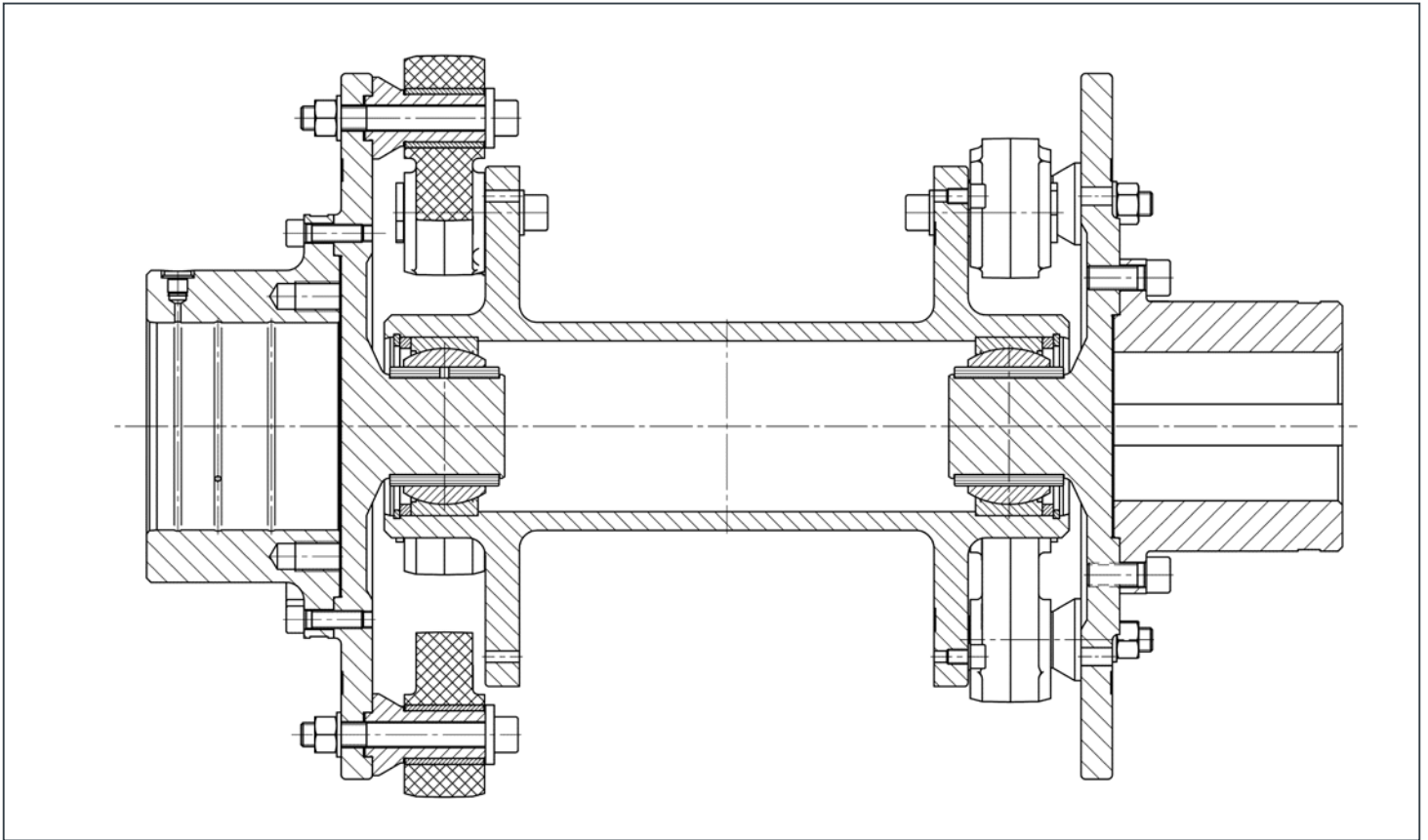
Series: VMW...W



Kupplungsgröße	VMF 20 W	VMF 30 W	VMF 40 W	VMF 50 W
Diameter: mm				
e	499	499	660	660
f	475	475	654	654
h1	210	210	270	270
h2	210	210	270	270
d1 max	150	150	190	190
d2 max	150	150	190	190
Lengths: mm				
l1	370	370	464	464
n1	175	175	220	220
n2	175	175	220	220
o	118	118	158	150
p	124	124	172	156
x	76	76	94	94
y	102	102	126	126
Mass: kg				
m*	100	105	226	234
Mass mom. of inertia: kgm ²				
JA side*	1,245	1,359	5,240	5,626
JB side*	0,632	0,682	2,565	2,727

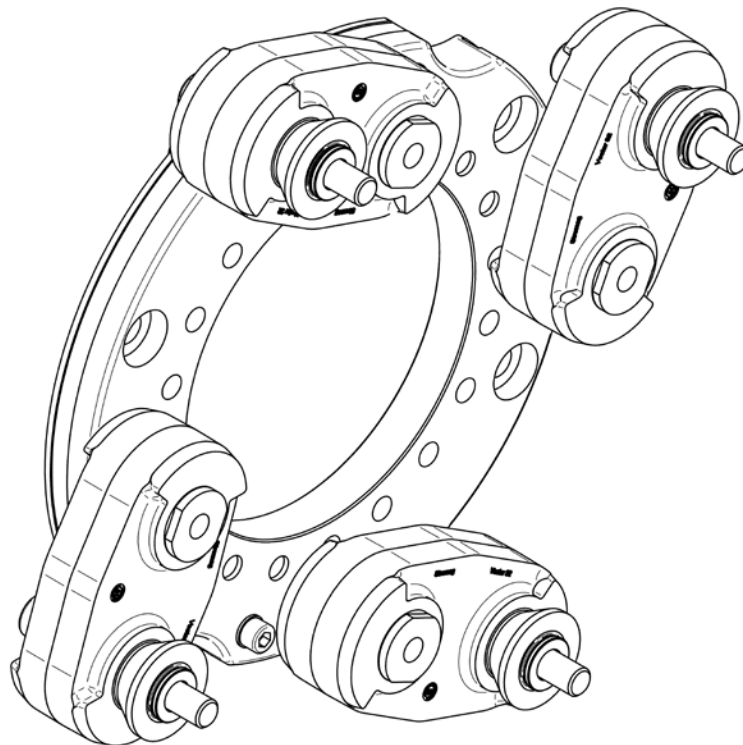
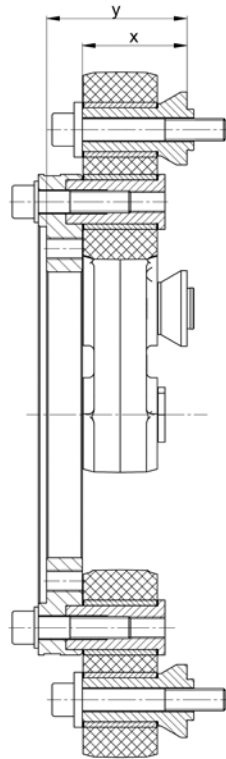
*) at max. bore dia.

custom-built model



Stromag Vector® Couplings

custom-built model



The Power Of One, The Strength Of Many.

OTHER PRODUCT SOLUTIONS FROM **ALTRA INDUSTRIAL MOTION**

WWW.ALTRAMOTION.COM

Our comprehensive product offerings include various types of clutches and brakes, overrunning clutches, engineered bearing assemblies, gearing and gear motors along with linear products, belted drives, couplings and limit switches. With thousands of product solutions available, Altra provides true single source convenience while meeting specific customer requirements. Many major OEMs and end users prefer Altra products as their No. 1 choice for performance and reliability.



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Matrix
Stromag
Warner Electric



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Twiflex
Wichita Clutch



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Bibby Turboflex
Guardian Couplings
Huco
Lamiflex Couplings
Stromag
TB Wood's



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Bauer Gear Motor
Boston Gear
Delroyd Worm Gear
Nuttall Gear



GEAR MOTORS

Bauer Gear Motor



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LINEAR ACTUATORS AND CONTROLS

Warner Linear



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Kilian



AIR MOTORS

Huco



BELTED DRIVES AND SHEAVES

TB Wood's



GEARED CAM LIMIT SWITCHES

Stromag

Altra Industrial Motion

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Industrial Caliper Brakes

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New Hartford, CT 06057 - USA
860-238-4783

Electromagnetic Clutches & Brakes

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Michigan City, IN 46360 - USA
219-874-5248

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Wichita Falls, TX
940-723-3400

Geared Cam Limit Switches,
Industrial Caliper & Drum Brakes

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Clutches & Brakes, Electromagnetic
Clutches & Brakes, Couplings, Industrial
Caliper & Drum Brakes, Discs,
Geared Cam Limit Switches, Wind Brakes

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Clutches & Brakes, Couplings, Industrial
Caliper & Drum Brakes, Discs,
Geared Cam Limit Switches, Wind Brakes

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TB Woods
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