

# Rigid Couplings

**F7**

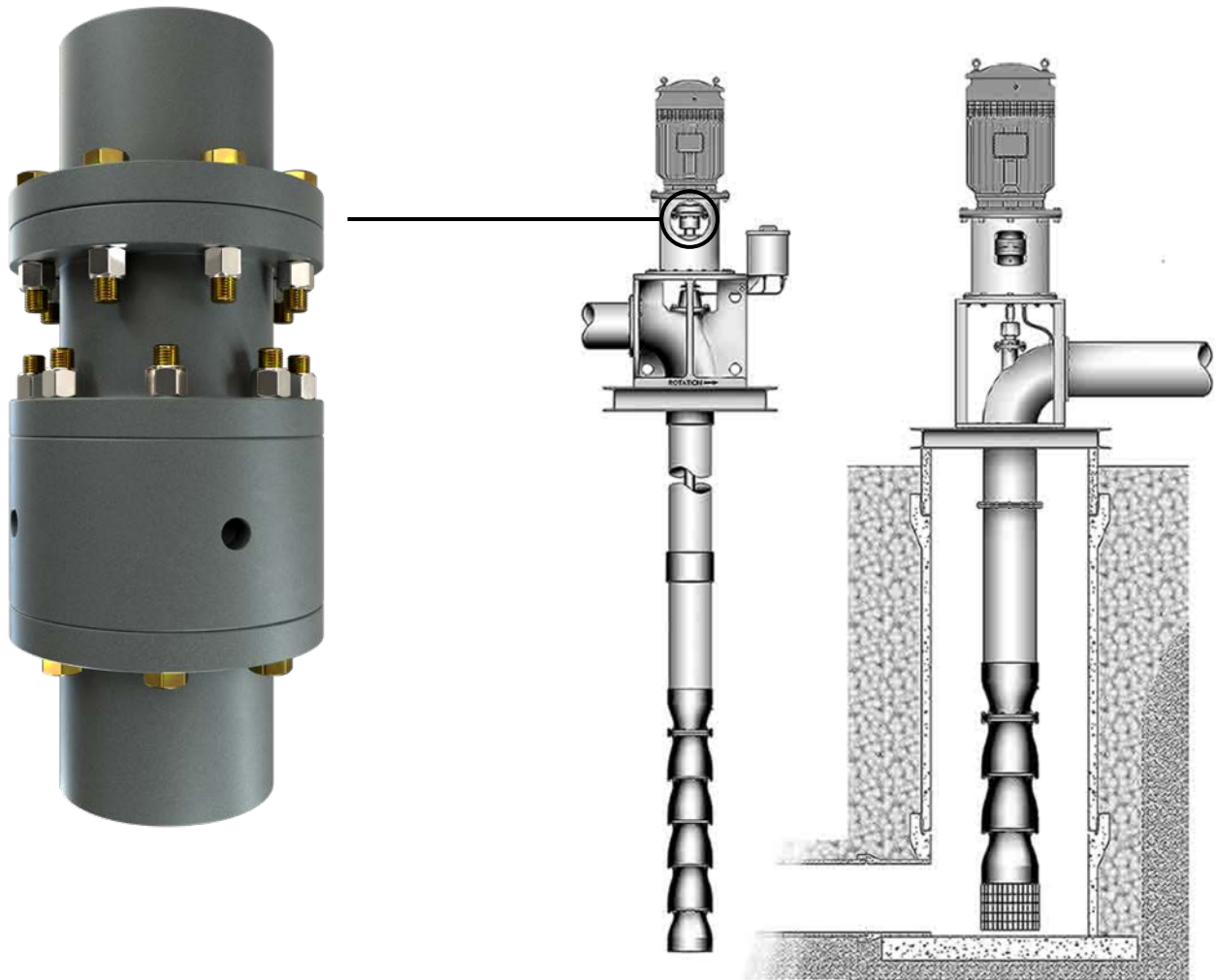


# AVS Series Couplings

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## AVS Series (Adjustable Vertical Spacer)

- Coupling used for vertical turbine pumps
- No flexible element
- Integral “nut” used for infinite adjustment of pump turbine spacing



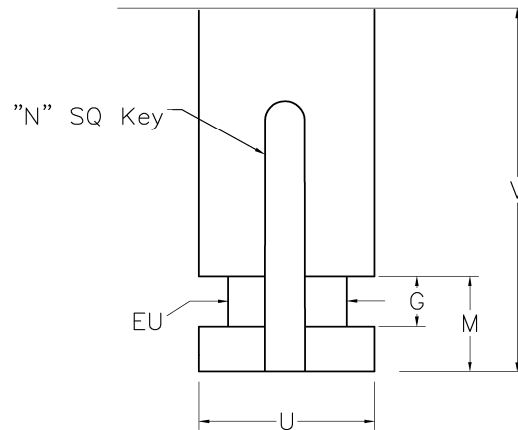
# Vertical Adjustable Rigid Coupling AVS Series

## Dimensions



- Major components are AISI 1045 steel
- Grade 8, Zinc Plated Hardware
- Meets AGMA 8 balance
- Component balance is optional
- Zinc Phosphate coated hubs, spacer and adjuster nut

DIMENSIONS						
NEMA SIZE	N	V	U	EU	G	M
182HP 184HP	.25	3.00	1.125	0.875	.377 .375	.75
213HP 215HP	.25	3.00	1.125	0.875	.377 .375	.75
254HP 256HP	.25	3.00	1.125	0.875	.377 .375	.75
284HP 286HP	.25	3.00	1.125	0.875	.377 .375	.75
324HP 326HP	.38	4.75	1.625	1.250	.377 .375	.75
364HP 365HP	.375	4.50	1.625	1.250	.377 .375	.75

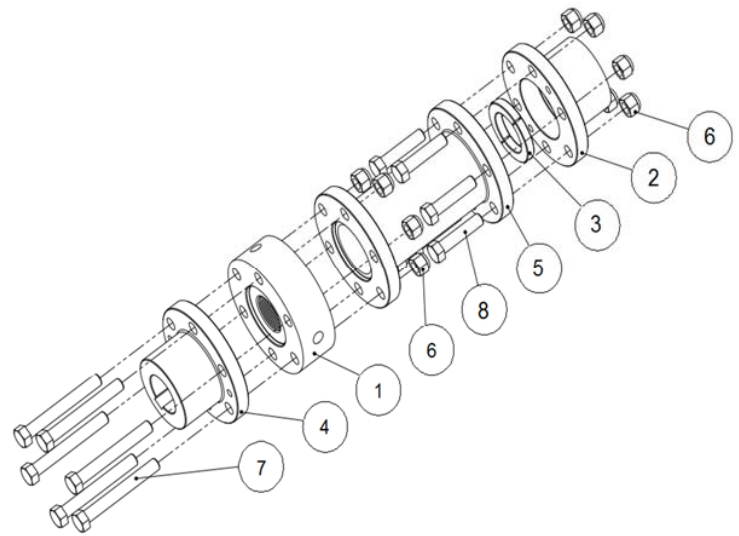
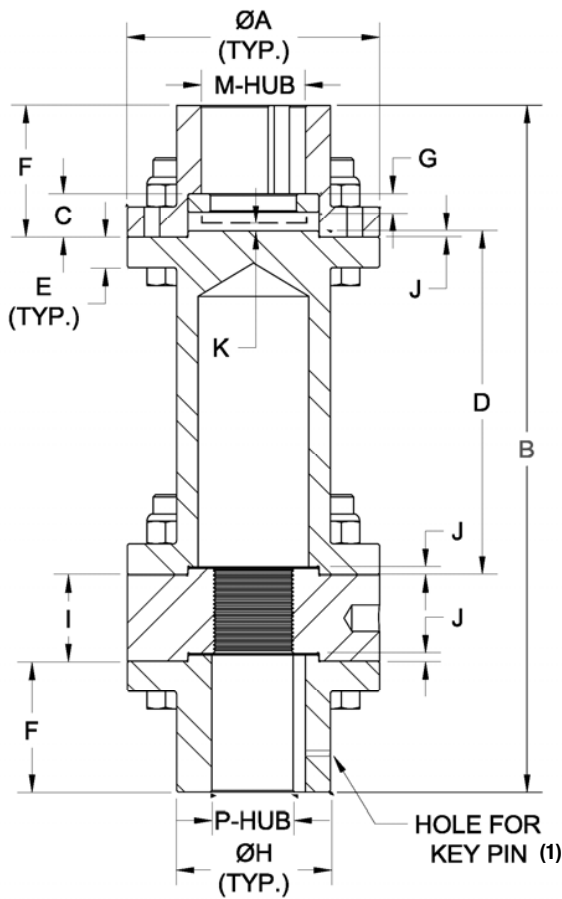


SIZE	RATED TORQUE		PEAK O/L TORQUE (LB-IN)	THRUST CAPACITY (LBS)	WEIGHT (LBS) (1)		WR <sup>2</sup> (LB/IN <sup>2</sup> ) (1)		BOLT TIGHTEN TORQUE (FT-LB)	BOLT PER FLANGE	BOLT LENGTH (IN)		BOLT DIA. (IN)
	TORQUE (LB-IN)	HP/100 RPM			D MIN.	PER INCH ADDER	D MIN.	PER INCH ADDER			PUMP END	MOTOR END	
114	1,701	2.7	3,403	4,500	6.69	0.26	7.18	0.16	11	4	2.50	1.25	0.25
134	5,042	8.0	10,084	11,000	14.13	0.61	27.5	0.74	24	6	3.00	1.50	0.31
214	11,281	17.9	21,209	28,500	28.7	1.06	93.6	1.95	75	6	4.00	2.13	0.50
234	21,302	33.8	37,279	28,500	49.4	1.66	223	4.71	84	6	5.75	2.13	0.50
318	27,983	44.4	55,966	28,500	62.4	1.92	338	7.12	97	6	6.00	2.38	0.50
338	35,924	57	63,586	38,000	73.9	2.42	438	9.67	97	8	6.00	2.38	0.50
414	68,697	109	137,395	66,000	139	3.43	1,456	23.03	300	6	7.00	2.88	0.75
512	195,378	310	293,066	159,000	260	5.78	4,484	62.49	733	8	6.50	3.50	1.00
612	254,621	404	509,242	199,000	374	7.11	8,174	115.58	733	10	6.25	4.00	1.00
778	448,738	712	897,476	278,000	714	9.62	21,558	226.01	733	14	9.75	6.00	1.00
918	723,527	1,148	1,447,054	294,000	1,074	12.50	41,944	400.47	1,025	12	10.00	6.25	1.13
1100	1,363,861	2,164	2,727,722	352,000	1,816	16.65	101,100	780.89	1,025	12	11.50	7.25	1.13

1. Weight and WR<sup>2</sup> are calculated for couplings with DBSE = D std. and hubs at maximum bore size.  
 2. Consult factory for torsional stiffness.

# Vertical Adjustable Rigid Coupling AVS Series

## Dimensions



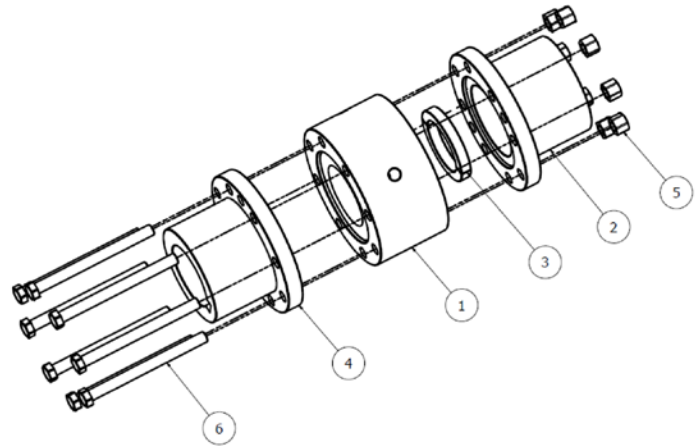
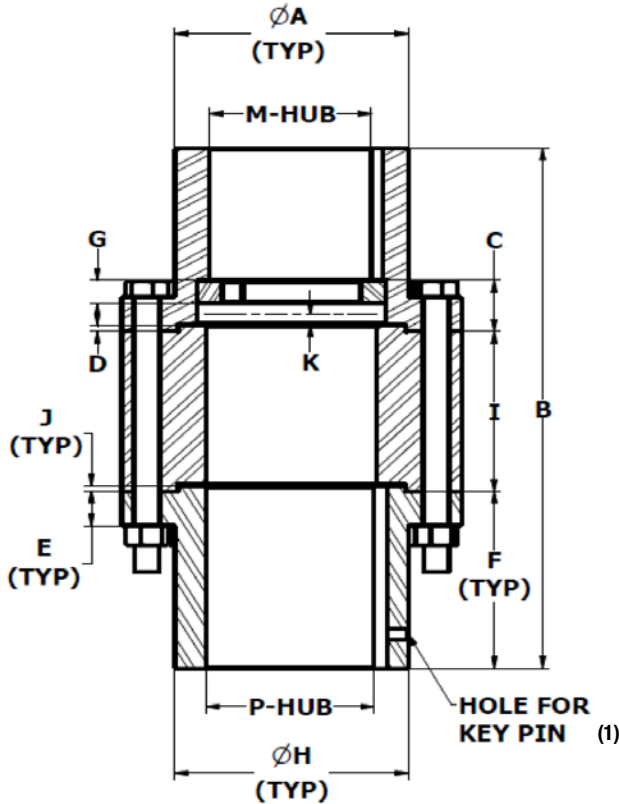
ITEM	DESCRIPTION
1	Adjusting Nut (2)
2	Motor Hub
3	Split Ring
4	Pump Hub
5	Spacer
6	All Steel Lock Nut
7	Pump End Bolt
8	Motor End Bolt

SIZE	MAX BORES		DIMENSIONS (IN)												
	P-HUB	M-HUB	A	B		C	D		E	F	G	H	I	J	K
	(IN) (4)	(IN) (5)		MIN	STD		MIN	STD							
114	1.250	1.125	3.00	6.75	9.56	0.89	1.63	4.44	0.38	2.00	0.375	1.75	1.25	0.125	0.016
134	1.750	1.688	4.00	7.63	10.31	0.89	1.75	4.44	0.44	2.25	0.375	2.50	1.50	0.125	0.016
214	2.250	2.125	5.13	9.63	11.44	0.89	2.63	4.44	0.63	2.69	0.375	3.13	1.75	0.125	0.016
234	2.750	2.625	5.88	11.88	13.69	0.89	2.63	4.44	0.63	2.94	.375/.50	3.88	3.50	0.125	0.016
318	3.125	2.938	6.38	13.13	14.69	0.89	2.88	4.44	0.75	3.44	.375/.50	4.38	3.50	0.125	0.016
338	3.375	3.250	6.75	14.25	15.81	0.89	2.88	4.44	0.75	4.00	.375/.50	4.63	3.50	0.125	0.016
414	4.250	3.938	8.94	15.75	17.06	0.89	3.13	4.44	0.81	4.38	.375/.50	5.88	4.00	0.125	0.016
512	5.500	5.125	11.75	19.50	20.38	1.38	4.50	5.00	1.00	6.00	.500/.750	7.50	3.00	0.250	0.125
612	6.500	6.438	13.25	25.38	26.25	1.63	4.75	5.00	1.13	9.25	0.625	9.00	2.38	0.250	0.125
778	7.875	7.500	15.00	31.94	33.13	1.94	7.06	7.50	2.25	10.75	0.750	10.75	3.69	0.313	0.125
918	9.125	9.000	17.25	37.00	41.50	1.94	7.31	7.50	2.25	15.00	0.750	12.50	3.56	0.313	0.125
1100	11.000	10.938	20.50	48.94	49.89	1.94	8.31	8.50	2.75	18.38	0.750	15.00	4.19	0.313	0.125

- Key Pin not included.
- Adjuster Nut can be left or right hand thread.
- Altra Couplings recommends coupling selection based on bore sizes and verify that torque service factor is a minimum of 1.25.
- Standard hub bore is for AGMA Clearance fit, but Interference fit is available upon request.
- Standard keyways per AGMA Commercial fit (Imperial), and Normal fit (Metric).

# Vertical Rigid Close Coupling AVS Series

## Dimensions



ITEM	DESCRIPTION
1	Adjusting Nut (2)
2	Motor Hub
3	Split Ring
4	Pump Hub
5	All Steel Lock Nut
6	Pump End Bolt

SIZE	MAX BORES		WEIGHT (LBS) (3)	WR <sup>2</sup> (LB-IN <sup>2</sup> ) (3)	DIMENSIONS (IN)										
	P-HUB	M-HUB			A	B	C	D	E	F	G	H	I	J	K
	(IN)(4)	(IN)(5)													
114	1.250	1.125	4.39	4.89	3.00	5.25	0.89	0.125	0.38	2.00	0.375	1.75	1.25	0.125	0.016
134	1.750	1.688	9.21	18.66	4.00	6.00	0.89	0.125	0.44	2.25	0.375	2.50	1.50	0.125	0.016
214	2.250	2.125	18.4	62	5.13	7.13	0.89	0.125	0.63	2.69	0.375	3.13	1.75	0.125	0.016
234	2.750	2.625	35.4	166	5.88	9.38	0.89	0.125	0.63	2.94	.375/.50	3.88	3.50	0.125	0.016
318	3.125	2.938	45.0	250	6.38	10.38	0.89	0.125	0.75	3.44	.375/.50	4.38	3.50	0.125	0.016
338	3.375	3.250	53.4	324	6.75	11.50	0.89	0.125	0.75	4.00	.375/.50	4.63	3.50	0.125	0.016
414	4.250	3.938	103	1097	8.94	12.76	0.89	0.125	0.81	4.38	.375/.50	5.88	4.00	0.125	0.016
512	5.500	5.125	187	3183	11.75	15.00	1.38	0.25	1.00	6.00	.500/.750	7.50	3.00	0.25	0.125
612	6.500	6.438	278	5899	13.25	20.88	1.63	0.25	1.13	9.25	0.625	9.00	2.38	0.25	0.125
778	7.875	7.500	499	14834	15.00	25.19	1.94	0.313	2.25	10.75	0.75	10.75	3.69	0.313	0.125
918	9.125	9.000	796	30369	17.25	33.56	1.94	0.313	2.25	15.00	0.75	12.50	3.56	0.313	0.125
1100	11.000	10.938	1359	73973	20.50	40.95	1.94	0.313	2.75	18.38	0.75	15.00	4.19	0.313	0.125

1. Key pin not included
2. Adjuster Nut can be left or right hand thread
3. Weight and WR<sup>2</sup> calculated with hubs at max bore
4. Standard hub bore is for AGMA Clearance fit, but Interference fit is available upon request.
5. Standard keyways per AGMA Commercial fit (Imperial), and Normal fit (Metric).
6. Altra Couplings recommends coupling selection based on bore sizes and verify that torque service factor is a minimum of 1.25.