

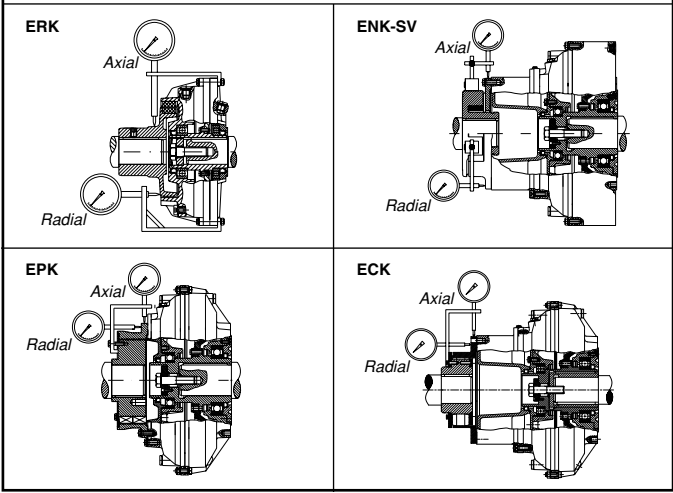
# **Fluid Coupling Oil Fill Chart**

## **Quick Reference Guide**

For Comprehensive Information refer to  
Voith Installation & Operating Manual

**Alignment Check Methods**

Refer to Voith Installation and Operating Manual for Turbo Couplings Section 9



**Alignment Tolerances**

Aim at a shaft misalignment of Zero.

**Axial & Radial Alignment**

Speed	Coupling Size		
	Up to 487	562 to 750	866 to 1150
at 1450 (rpm)	0.050mm	0.100mm	0.150mm

Connecting Coupling Type	Coupling Size		
	<274 to 366	422 to 562	650 to 866
EPK, ERK	±0.100	±0.100	±0.150
ENK-SV, ENK-SX, ECK	±0.050mm	±0.050mm	

**Operating Oils for Voith Constant Fill Couplings**

**Viscosity:** Approx. 29 cST at 50°C (32 cST at 40°C)

**Flashpoint:** Minimum 175°C

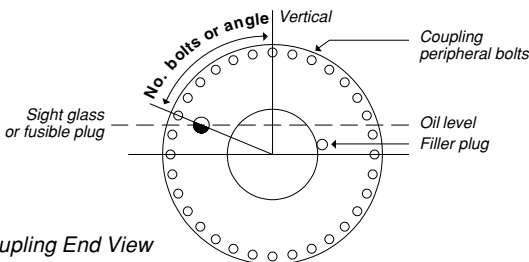
**Warning:** Voith Turbo Couplings may only be filled to a maximum of 80% of their total capacity.

Quality should be checked once a year. Oil should be changed once per year. Check for contaminants in oil - if present then return coupling to Voith Turbo for a service.

The following oils are recommended:

<b>BP</b> "Energol" HLP32 & HM 32	<b>Caltex</b> "Rando" 32 & HD 32
<b>Castrol</b> "Hyspin"AW-HM 32 & SP 32	<b>Valvoline</b> M5-C600B
<b>Shell</b> "Tegula" 32	<b>Sasol</b> "Rubis" 32
<b>Mobil</b> SHC 524 & DTE 24	<b>Total</b> "Azolla" ZS 32

**Power absorbed = Motor power installed x 0.8 (20% down) I or 0.00153 V.I V = Voltage and I = Current (Amperes)**



*Coupling End View*

## Oil Fill Quantities for Voith Couplings

At 4 - Pole (or 1500 rpm) speeds (based on ISO VG 32 hydraulic Oil)					
Absorbed Power	Coupling Size	Filling Quantity (Litres) for Coupling types			
		T/TRi	TV/TUV/TVRi	TVV/TUVV/TVVRi	TWVS/TUVVS/(TSS)
7.5	274D	3.12			
11		3.57			
12		3.70			
15		4.06			
15	366	4.20	3.70	3.80	
18.5		4.40	3.90	4.10	
20		4.60	4.10	4.30	
22		4.80	4.25	4.50	
25		5.30	4.50	4.90	
30		5.80	4.90	5.20	
32	422	6.20	6.80	7.20	9.85
35		6.40	7.00	7.50	10.00
40		6.90	7.30	7.85	10.50
45		7.17	7.60	8.20	11.00
50		7.40	7.75	8.50	11.25
55		7.70	7.90	8.80	11.50
60		7.90	8.10	9.05	11.70
65		8.10	8.30	9.30	11.85
70		8.30	8.50	9.60	12.00
70	487	9.70	10.40	11.60	17.70
75		10.40	10.80	12.00	18.10
80		10.60	11.00	12.10	18.40
85		10.80	11.15	12.25	18.65
90		11.00	11.30	12.40	18.90
100		11.30	11.65	12.70	19.30
110		11.70	12.00	13.00	19.70
120		12.05	12.30	13.40	20.10
130		12.30	12.50	13.60	20.30
120	562	16.00	16.00	18.80	25.00
130		16.20	16.40	19.00	26.40
140		16.70	16.90	19.70	27.00
150		16.90	17.40	20.30	27.50
160		17.20	17.80	20.90	27.90
170		17.50	18.20	21.30	28.30
180		17.80	18.60	22.10	28.70
190		18.10	19.00	22.60	29.20
200		18.50	19.40	23.20	29.70
225		19.10	20.20	24.50	30.00
250		19.90	21.00	25.60	31.70
225	650	23.40	24.20	27.00	38.00
250		24.00	25.00	28.00	40.00
275		24.60	25.60	29.20	41.00
300		25.20	26.20	30.40	42.00
325		25.80	27.70	31.90	43.30
350		26.50	28.80	33.50	45.00
375		27.00	29.40	34.50	46.00
400		27.50	30.20	35.40	47.10
425		28.50	31.00	36.80	48.00
375	750	31.00	33.00	36.00	58.00
400		32.00	34.00	35.00	60.00
425		32.60	35.00	36.80	61.00
450		33.20	36.00	38.60	62.20
475		33.80	37.00	40.20	63.30
500		34.50	38.20	41.90	64.30
525		35.10	39.00	43.00	65.20
550		35.60	40.10	44.00	66.00
575		36.20	41.00	45.20	66.70

## Filling Degrees (No. Bolts) from Top Dead Centre

Oil Fill Litres	Voith Coupling Size 274			
	T/TRi		DT/DTRi	
	No. of Bolts	DEG.	No. of Bolts	DEG.
1.2	7.5 (min)	112.0°		
1.5	6.6	99.0°		
1.8	5.8	87.0°		
2.0	5.6	81.9°	7.5 (min)	113.0°
2.1	5.3	78.0°	7.4	110.0°
2.4	4.4 (max)	66.0°	7.1	106.0°
2.5			6.8	102.0°
3.0			6.0	91.0°
3.5			5.3	79.0°
4.1			4.4 (max)	66.0°

Filling Degrees (No. Bolts) from Top Dead Centre \*Continued

Oil Fill Litres	Voith Coupling Size 366					
	T/TRi		TV/TUV/TVRi		TVV/TUVV/TVVRi	
	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.
3.1	9.7 (min)	109.0°				
3.2	9.4	106.0°	10.1 (min)	114.0°	10.6 (min)	119.0°
3.5	9.2	104.0°	9.2	104.2°	10.3	115.2°
4.0	8.5	96.0°	9.3	106.0°	9.9	111.0°
4.5	7.9	89.0°	8.8	99.0°	9.5	108.5°
5.0	7.2	81.0°	8.2	92.0°	9.1	101.0°
5.5	6.6	74.0°	7.8	88.0°	8.3	100.7°
6.0	6.0	67.0°	7.2	81.0°	8.2	92.0°
6.2	5.8 (max)	65.0°	7.0	79.0°	7.9	90.5°
6.5			6.7	75.0°	7.6	87.0°
7.0			6.2	69.6°	7.4	83.0°
7.2			6.0 (max)	68.0°	7.3	82.0°
8.1					6.5 (max)	73.0°

Oil Fill Litres	Voith Coupling Size 422						Turbo Soft Start	
	T/TRi		TV/TUV/TVRi		TVV/TUVV/TVVRi		TVVS/TUVVS	
	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.
4.9	10.7(min)	107.0°						
5.0	10.6	105.8°						
5.2	10.1	101.0°	11.2(min)	112.0°	11.8(min)	118.0°		
6.0	9.6	96.0°	10.6	106.0°	11.5	114.5°		
6.5	9.2	91.8°	10.2	102.0°	11.1	111.2°		
7.0	8.6	86.0°	9.9	99.0°	10.9	109.0°		
7.5	8.2	82.0°	9.5	95.0°	10.6	105.5°		
8.0	7.7	77.0°	9.1	91.0°	10.3	103.0°		
8.3	7.4	74.2°	8.9	89.2°	10.1	101.1°	11.0(min)	110.0°
8.5	7.2	72.0°	8.8	88.0°	10.0	99.8°	10.7	107.4°
9.0	6.8	68.0°	8.4	84.0°	9.7	97.0°	10.6	106.0°
9.5	6.3	63.0°	8.1	80.7°	9.4	93.9°	10.4	104.0°
9.8	6.0(max)	60.0°	7.9	78.5°	9.3	93.0°	10.2	102.0°
10.0			7.6	77.0°	9.1	91.0°	10.1	101.0°
10.5			7.4	73.5°	8.8	88.0°	9.8	98.0°
11.0			7.0	70.0°	8.6	86.0°	9.5	95.0°
11.5			6.7	67.0°	8.2	82.2°	9.3	92.9°
11.7			6.6(max)	66.0°	8.2	81.8°	9.2	92.0°
12.0					7.9	79.0°	9.0	90.0°
12.5					7.7	76.5°	8.8	87.8°
13.0					7.5	74.1°	8.5	85.0°
13.2					7.4(max)	73.0°	8.4	83.7°
14.0							7.9	79.0°
14.5							7.7(max)	77.0°

Oil Fill Litres	Voith Coupling Size 487						Turbo Soft Start	
	T/TRi		TV/TUV/TVRi		TVV/TUVV/TVVRi		TVVS/TUVVS	
	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.
7.5	13.9(min)	105.0°						
8.0	13.5	101.0°	14.8(min)	111.0°	15.2(min)	114.0°		
9.0	12.7	96.0°	14.2	107.0°	14.7	110.0°		
10.0	11.9	89.0°	13.6	102.5°	14.2	107.0°		
11.0	11.1	83.1°	13.0	98.0°	13.7	102.7°		
12.0	10.3	77.0°	12.3	92.0°	13.2	99.0°		
13.0	9.6	72.0°	11.7	88.0°	12.7	94.6°	13.7(min)	103.0°
13.5	9.2	69.3°	11.4	86.5°	12.5	93.3°	13.5	102.0°
14.0	8.9	67.0°	11.1	83.0°	12.1	91.0°	13.3	99.0°
14.5	8.4	63.0°	10.8	82.0°	11.9	89.3°	12.9	98.0°
15.0	8.1(max)	61.0°	10.5	79.3°	11.7	87.3°	12.8	96.0°
15.5			10.3	77.5°	11.4	86.3°	12.5	95.0°
16.0			9.9	75.0°	11.1	83.0°	12.2	91.0°
16.5			9.7	72.7°	10.9	82.3°	12.0	90.0°
17.0			9.4	70.5°	10.7	80.6°	11.8	89.0°
17.5			9.1	67.8°	10.4	78.6°	11.6	87.0°
18.0			8.8(max)	66.0°	10.1	76.0°	11.3	85.0°
19.0					9.7	73.0°	10.8	82.0°
20.0					9.3(max)	70.0°	10.4	78.0°
22.0							9.6	72.0°
23.0							8.8(max)	66.0°

Filling Degrees (No. Bolts) from Top Dead Centre \*Continued

Oil Fill Litres	Voith Coupling Size 562						Turbo Soft Start	
	T/TRi		TV/TUV/TVRi		TVV/TUVV/TVVRi		TVVS/TUVVS	
	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.
11.5	16.3(min)	104.0°	17.4(min)	112.0°				
12.0	16.0	103.0°	17.0	109.5°	17.8(min)	114.0°		
13.0	15.3	98.0°	16.3	103.7°	17.4	112.0°		
14.0	14.7	95.0°	16.1	104.0°	17.0	110.0°		
15.0	14.2	91.0°	15.6	101.0°	16.7	107.0°		
16.0	13.4	86.0°	15.2	98.0°	16.2	105.0°		
18.0	12.2	78.0°	14.2	91.0°	15.5	100.0°		
19.0	11.7	75.0°	13.8	88.8°	15.1	97.0°		
20.0	11.1	72.0°	13.2	85.0°	14.7	95.0°		
20.5	10.8	69.0°	13.1	84.0°	14.6	94.0°	16.3(min)	105.0°
21.0	10.5	67.0°	12.9	83.0°	14.4	92.0°	16.2	104.0°
22.0	10.0	64.0°	12.3	79.0°	14.0	90.0°	15.8	102.0°
23.0	9.4(max)	60.0°	12.0	77.0°	13.5	87.0°	15.5	99.0°
24.0			11.5	74.0°	13.3	85.0°	15.1	97.0°
26.0			10.6(max)	68.0°	12.5	80.0°	14.3	92.0°
27.0					12.0	77.0°	14.0	90.0°
28.0					11.7	75.0°	13.6	87.0°
30.0					11.0	71.0°	12.8	82.0°
31.0					10.7(max)	69.0°	12.5	80.4°
32.0							12.1	78.0°
33.0							11.7	75.5°
34.0							11.4	73.5°
35.0							11.0	71.3°
36.0							10.6(max)	68.0°

Oil Fill Litres	Voith Coupling Size 650						Turbo Soft Start	
	T/TRi		TV/TUV/TVRi		TVV/TUVV/TVVRi		TVVS/TUVVS	
	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.
17.0	12.4(min)	106.0°						
17.5	12.2	104.3°	13.1(min)	113.0°				
18.0	12.1	103.0°	12.8	111.0°	13.5(min)	116.0°		
20.0	11.4	98.0°	12.5	107.0°	13.1	113.0°		
22.0	10.8	93.0°	12.1	103.0°	12.8	110.0°		
23.0	10.6	91.0°	11.8	101.0°	12.6	108.0°		
24.0	10.2	87.0°	11.7	100.0°	12.4	106.0°		
26.0	9.7	82.0°	11.1	95.0°	12.1	104.0°		
28.0	9.0	77.0°	10.8	92.0°	11.7	100.0°		
30.0	8.5	72.0°	10.1	87.0°	11.4	97.0°		
32.0	7.9	67.0°	9.9	84.0°	11.0	93.3°	12.2(min)	104.0°
34.0	7.3(max)	62.0°	9.2	79.0°	10.6	91.0°	11.8	101.0°
37.0			8.7	74.0°	10.0	85.0°	11.4	97.0°
38.0			8.4	72.0°	9.8	84.0°	11.2	95.0°
40.0			8.1(max)	69.0°	9.5	81.0°	10.9	93.0°
42.0					9.1	78.0°	10.5	90.0°
46.0					8.4(max)	72.0°	9.8	84.0°
47.0							9.6	82.0°
52.0							8.9	76.0°
56.0							8.2(max)	70°

Oil Fill Litres	Voith Coupling Size 750						Turbo Soft Start	
	T/TRi		TV/TUV/TVRi		TVV/TUVV/TVVRi		TVVS/TUVVS	
	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.	No. of Bolts	DEG.
25.5	15.4(min)	107.0°						
26.0	15.3	102.0°	16.4(min)	113.0°	16.7(min)	116.0°		
30.0	14.2	98.0°	15.6	108.0°	16.2	113.0°		
35.0	12.9	89.0°	14.7	102.0°	15.6	108.0°		
39.0	12.0	83.0°	13.7	95.0°	15.3	106.0°		
40.0	11.6	81.0°	13.6	92.6°	14.9	103.0°		
44.0	10.8	74.0°	12.7	88.0°	14.4	100.2°		
45.0	10.5	72.0°	12.6	86.0°	14.1	98.0°		
46.0	10.3	71.0°	12.4	84.1°	13.8	96.0°	15.2(min)	105.0°
49.0	9.5	65.3°	11.8	82.0°	13.6	94.0°	14.9	103.0°
50.0	9.2	64.0°	11.6	80.3°	13.3	92.0°	14.6	101.0°
51.0	9.0(max)	62.0°	11.4	78.7°	13.0	90.0°	14.3	99.0°
54.0			11.0	76.0°	12.7	87.6°	14.2	97.8°
55.0			10.8	74.6°	12.5	86.0°	13.9	96.0°
59.0			10.0(max)	70.0°	11.9	82.0°	13.4	92.5°
60.0					11.7	81.0°	13.2	91.0°
65.0					11.1	76.3°	12.5	86.0°
68.0					10.6(max)	73.0°	12.2	84.4°
70.0							11.8	82.0°
75.0							11.2	77.0°
80.0							10.6(max)	73.0°

# We are a **Reliable** service partner providing optimal **Service Solutions** for our clients

Our After-market specialists in the reduction of production downtime ensure your peace of mind by offering you the following integrated services.

## **Health check**

Our health check is an overall diagnosis for the entire driveline. It reveals their actual condition protecting you from expensive downtimes and subsequent equipment damage.

## **Exchange program**

Our exchange centres offer an exchange program allowing you to exchange your used Voith components for completely overhauled and certified items - saving you both time and money.

## **Service agreements**

To ensure your accurate long term planning we offer service agreements for Voith equipment.

The agreements cover regular condition assessment, preventative maintenance, spare parts supplies and customer-specific contracts.

## **Service and inspection**

Our technicians will assemble and inspect your products on-site ensuring you a trouble free start-up and operation.

## **Follow up service**

In the early operating stages, incorrect operation often results in costly downtime. A Voith expert is by your side to familiarise you with your Voith equipment.

## **Voith genuine spare parts**

To avoid costly breakdowns, we use only genuine Voith spare parts which are supplied with a standard 12 month warranty.

## **Helpline**

Our experienced service personnel are ready to support you with their expert know-how.

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