

\*File E140310  
Project 93ME50061

Issued: May 11, 1993  
Revised: December 12, 2003

REPORT

on

LIQUID-TIGHT FITTINGS FOR FLEXIBLE CORD

Jacob GmbH  
Kernen, Germany

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DESCRIPTION

PRODUCT COVERED:

**USL, CNL** Liquid-Tight Fittings for Flexible Cord Cat. Nos.  
 50.016PAzzzz, 50.029PAzzzz, 50.036PAzzzz, 50.042PAzzzz,  
 50.048PAzzzz, 50.029PA/Rzzzz, 50.036PA/Rzzzz,  
 50.042PA/Rzzzz, 50.048PA/Rzzzz, 50016M20PAzzzz,  
 50.029M32PAzzzz, 50.036M40PAzzzz, 50.042M50PAzzzz,  
 50.048M63PAzzzz, 50029M32PA/Rzzzz, 50036M40PA/Rzzzz,  
 50042M50PA/Rzzzz, 50048M63PA/Rzzzz. 50.110PA/Rzzzz,  
 50.114PAzzzz

**USR, CNR** Component Liquid-Tight Fittings for Flexible Cord Part Nos.  
 50.0xxPAzzzz, 50.0xxPA/Rzzzz, 50007M12PAzzzz,  
 50011M16PAzzzz, 50013M20PAzzzz, 50021M25PAzzzz,  
 50.6xxM(1)zzzz, 50.6xxM(1)-Lzzzz, 50.6xxM(1)/EMVzzzz,  
 50.6xxM(1)/EMV/Lzzzz, 50.6xxM/Rzzzz, 50.6xxM/R/Lzzzz,  
 50.6xxM/EMV/Rzzzz, 50.6xxM/EMV/R/Lzzzz, 50.1xxzzzz,  
 50.1xxRzzzz, 50.6xxPAzzzz, 50.6xxPAzzzzL, 50.6xxPA/FLzzzz,  
 50.6xxPA/FLzzzz, 50.6xxPA/Rzzzz, 50.6xxPA/RLzzzz,  
 50.6xxPAFLRzzzz, 50.6xxPAFLRLzzzz, 50.1xxPAzzzz,  
 50.1xxxxPAzzzz, 50.1xxPA/BSzzzz, 50.1xxPA/Rzzzz,  
 50.1xxPA/BSRzzzz, 50.11213PA/Rzzzz, 50.11213PA/BSRzzzz,  
 50.013PA/Rzzzz, 50013M20PARzzzz. 50.6xxES(1)zzzz,  
 50.6xxES(1)EMVzzzz, 50.6xxES/Rzzzz, 50.6xxES/EMVRzzzz,  
 50.6xx/xxM(1)zzzz, 50.6xx/xxMRzzzz, 50.6xxM(1)EMVDzzzz,  
 50.6xxM/EMVDRzzzz, 50.6xxES(1)EMVDzzzz, 50.6xxES/EMVDRzzzz,  
 50.1xx(1)EMVzzzz, 50.1xx/EMVRzzzz, 50.1xxES(1)EMVzzzz,  
 50.1xxES/EMVRzzzz.

Part No.	Trade Size PG, NPT, Metric	Cord Diameter Range, mm	Illustration No.	
50.0xxPAzzzz	7	3-6.5	1	
	9	4-8		
	11	5-10		
	13	9-12		
	16	11-14		
	21	14-18		
	29	19-25		
	36	22-32		
	42	32-38		
50.0xxPA/Rzzzz	48	34-44	2	
	29	13.5-20		
	36	20-26		
	42	25-31		
48	29-35	3		
50007M12PAzzzz	12		3-6.5	
50011M16PAzzzz	16		5-10	
50013M20PAzzzz	20		9-12	
50016M20PAzzzz	20		11-14	
50021M25PAzzzz	25		13-18	
50029M32PAzzzz	32		19-25	
50036M40PAzzzz	40		22-32	
50042M50PAzzzz	50		32-38	
50048M63PAzzzz	63		34-44	
50029M32PA/Rzzzz	32		13.5-20	4
50036M40PA/Rzzzz	40		20-26	
50042M50PA/Rzzzz	50		25-31	
50048M63PA/Rzzzz	63		29-35	

Part No.	Trade Size PG, NPT, Metric	Cord Diameter Range, mm	Illustration No.
<b>Series A1, A2, A3 A4</b>  50.6xxMzzzz 50.6xxM-Lzzzz 50.6xxM/EMVzzzz 50.6xxM/EMV/Lzzzz  50.6xxESzzzz 50.6xxES/EMVzzzz 50.6xx/xxMzzzz, 50.6xxM/EMVDzzzz 50.6xxES/EMVDzzzz 50.1xx/EMVzzzz** 50.1xxES/EMVzzzz**	12 16 /** 3/8" 20 /** 1/2" 25/** 3/4" 32 /**1" 40 /**1 1/4" 50/**1 1/2" 63 /**2"	5-6 9 10-13 12-16 15-21 19-27 26-35 39-42	5-8
<b>Series A1, A2, A3 A4</b>  50.6xxM1zzzz 50.6xxM1-Lzzzz 50.6xxM1/EMVzzzz 50.6xxM1/EMV/Lzzzz 50.6xxES1zzzz 50.6xxES1/EMVzzzz 50.6xx/xxM1zzzz 50.6xxM1/EMVDzzzz 50.6xxES1/EMVDzzzz 50.1xx/1EMVzzzz** 50.1xxES1/EMVzzzz**	63 /**2"	39.2-48	
<b>Series B1, B2, B3, B4</b>  50.6xxM/Rzzzz 50.6xxM/R/Lzzzz 50.6xxM/EMV/Rzzzz 50.6xxM/EMV/R/Lzzzz 50.6xxES/Rzzzz 50.6xxES/EMVRzzzz 50.6xx/xxMRzzzz 50.6xxM/EMVDRzzzz 50.6xxES/EMVDRzzzz 50.1xx/EMVRzzzz** 50.1xxES/EMVRzzzz**	12 16 /** 3/8" 20 /** 1/2" 25 /** 3/4" 32 /**1" 40 /**1 1/4: 50 /**1-1/2 63 **/2"	3.2-5 9 13 9.3-16 13-21 17-27 22-35 48	9-12

Part No.	Trade Size PG, NPT, Metric	Cord Diameter Range, mm	Illustration No.
Series C1	3/8	7-8	13
50.1xxzzzz	1/2	7-12.5	
	3/4	13-18	
	1	18-25	
Series D1	3/8	6	14
50.1xxRzzzz	1/2	6-9	
	3/4	9-16	
	1	12-20	
Series E1, E2	12	6	15-16
50.6xxPAzzzz 50.6xxPAzzzzL	16	7-10	
	20	9-13	
	25	13-17	
	32	21	
	40	21-28	
	50	28-35	

Part No.	Trade Size PG, NPT, Metric	Cord Diameter Range, mm	Illustration No.
Series E3, E4 50.6xxPA/FLzzzz 50.6xxPA/FLLzzzz	12 16 20 25 32 40 50	6 5.6-10 9-13 13-17 15-21 28 27-35	17-18
Series F1, F2 50.6xxPA/Rzzzz 50.6xxPA/RLzzzz	12 16 20 25 32 40 50	3.1-5 6-10 9-13 11-17 14.1-21 19-28 25-35	19-20
Series F3, F4 50.6xxPAFLRzzzz 50.6xxPAFLRLzzzz	12 16 20 25 32 40 50	3.1-5 6-10 9-13 11-17 14-21 17.7-28 35	21-22
Series G1, G2 50.1xxPAzzzz 50.1xxPA/BSzzzz 50.1xxxxPAzzzz 50.1xxxxPABSzzzz	3/8 1/2 1/2 1/2 3/4	5-10 9-12 11-14 15-18 14-18	23-24
Series G1 50.1xxPAzzzz	1 1-1/4	19-25 22-32	23
Series H1, H2 50.1xxPA/Rzzzz 50.1xxPA/BSRzzzz	3/8 1/2 3/4	3.5-7 7-12 9.6-16	25-26
Series H1 50.1xxPA/Rzzzz	1 1-1/4	13.5-20 20-26	25
Series H1 50.11213PA/Rzzzz 50.11213PA/BSRzzzz	1/2	6-9	25, 26
50.013PA/Rzzzz	13.5	6-9	27
50013M20PARzzzz	M20	6-9	28

GENERAL:

TABLE 1

Part No.	NPT Equivalent	Metric Equivalent (+)	PG Equivalent (+)
50.007PAzzzz	-		7
50.009PAzzzz	-		9
50.011PAzzzz	-		11
50.013PAzzzz	-		13.5
50.016PAzzzz	-		16
50.021PAzzzz	-		21
50.029PAzzzz	-		29
50.036PAzzzz	-		36
50.042PAzzzz	-		42
50.048PAzzzz	-		48
50.029PA/Rzzzz	-		29
50.036PA/Rzzzz	-		36
50.042PA/Rzzzz	-		42
50.048PA/Rzzzz	-		48
50007M12PAzzzz	-	M12	
50011M16PAzzzz	-	M16	
50013M20PAzzzz	-	M20	
50016M20PAzzzz	-	M20	
50021M25PAzzzz	-	M25	
50029M32PAzzzz	-	M32	
50036M40PAzzzz	-	M40	
50042M50PAzzzz	-	M50	
50048M63PAzzzz	-	M63	
50029M32PAzzzz	-	M32	
50036M40PAzzzz	-	M40	
50042M50PAzzzz	-	M50	
50048M63PAzzzz	-	M63	
50.612Mzzzz	-	M12	
50.616Mzzzz	-	M16	
50.620Mzzzz	-	M20	
50.625Mzzzz	-	M25	
50.632Mzzzz	-	M32	
50.640Mzzzz	-	M40	
50.650Mzzzz	-	M50	
50.663Mzzzz	-	M63	
50.663M1zzzz	-	M63	
50.612M/Rzzzz	-	M12	
50.616M/Rzzzz	-	M16	
50.620M/Rzzzz	-	M20	
50.625M/Rzzzz	-	M25	
50.632M/Rzzzz	-	M32	

<u>Part No.</u>	<u>NPT Equivalent</u>	<u>Metric Equivalent (+)</u>	<u>PG Equivalent (+)</u>
50.640M/Rzzzz	-	M40	
50.650M/Rzzzz	-	M50	
50.663M/Rzzzz	-	M63	
50.138zzzz	3/8		
50.112zzzz	1/2		
50.134zzzz	3/4		
50.110zzzz	1		
50.138Rzzzz	3/8		
50.112Rzzzz	1/2		
50.134Rzzzz	3/4		
50.110Rzzzz	1		
50.612PAzzzz	-	M12	
50.616PAzzzz	-	M16	
50.620PAzzzz	-	M20	
50.625PAzzzz	-	M25	
50.632PAzzzz	-	M32	
50.640PAzzzz	-	M40	
50.650PAzzzz	-	M50	
50.663PAzzzz	-	M63	
50.612PA/Rzzzz	-	M12	
50.616PA/Rzzzz	-	M16	
50.620PA/Rzzzz	-	M20	
50.625PA/Rzzzz	-	M25	
50.632PA/Rzzzz	-	M32	
50.640PA/Rzzzz	-	M40	
50.650PA/Rzzzz	-	M50	
50.663PA/Rzzzz	-	M63	
50.138PAzzzz	3/8		
50.112PAzzzz	1/2		
50.134PAzzzz	3/4		
50.110PAzzzz	1		
50.114PAzzzz	1-1/4		
50.138PA/Rzzzz	3/8		
50.112PA/Rzzzz	1/2		
<b>50.11213PA/Rzzzz</b>	<b>1/2</b>		
50.134PA/Rzzzz	3/4		
50.110PA/Rzzzz	1		
50.114PA/Rzzzz	1-1/4		
<b>50.11213PA/BSRzzzz</b>	<b>1/2</b>		

- Indicates no NPT equivalent for the correlating part number.

+ - Indicates M12 = 12 mm, M16 = 16 mm, M20 = 20 mm, M25 = 25 mm,  
M32 = 32 mm, M40 = 40 mm, M50 = 50 mm, M63 = 63 mm.

## NOMENCLATURE:

## PLASTIC FITTINGS WITH PG THREAD

50.0xxPAzzzz      xx after 50.0 means Pg sizes 7, 9, 11, 13, 16, 21, 29, 36, 42, 48

50.0xxPAzzzz      zzzz after PA may be followed by Suffixes

Suffix	Explanation
"7035", "7001", "SW"	And other color-index to RAL polyamide is "all colors". UL Listed
"BS"	For spiral top
(corrective Suffixes)	
"FL"	V-0 polyamide is UL Listed
"L", "08", "10", "12", "15"	For other thread length
"R"	For reducing sealing ring
"GM", "G"	For mounted locknut on the thread
"OM"	For mounted O-ring on the thread
"SM"	For mounted dust cap as dust protection by transport or storage
"VPA", "V"	For mounted blind plug as dust protection by transport of storage
"STO"	For mounted insert without bore as dust protection by transport or storage

## PLASTIC FITTINGS WITH METRIC THREAD

50.0xxMxxPAzzzz      xx after 50.0xxM means metric sizes 12, 16, 20, 25, 32, 40, 50, 63

50.0xxMxxPAzzzz      zzzz after PA may be followed by Suffixes

Suffix	Explanation
"7035", "7001", "SW"	And other color-index to RAL polyamide is "all colors". UL Listed
"BS"	For spiral top
(corrective Suffixes)	
"FL"	V-0 polyamide is UL Listed
"L", "08", "10", "12", "15"	For other thread length
"R"	For reducing sealing ring
"GM", "G"	For mounted locknut on the thread
"OM"	For mounted O-ring on the thread
"SM"	For mounted dust cap as dust protection by transport or storage
"VPA", "V"	For mounted blind plug as dust protection by transport of storage
"STO"	For mounted insert without bore as dust protection by transport or storage

## PLASTIC FITTINGS WITH METRIC THREAD

50.6xxPAzzzz      xx after 50.6 means metric sizes 12, 16, 20, 25, 32, 40,  
50, 63

50.6xxPAzzzz      zzzz after PA may be followed by Suffixes

Suffix	Explanation
"7035", "7001", "SW"	And other color-index to RAL polyamide is "all colors". UL Listed
"BS"	For spiral top
"FL"	V-0 polyamide is UL Listed
"L", "08", "10", "12", "15"	For other thread length
"R"	For reducing sealing ring
"GM", "G"	For mounted locknut on the thread
"OM"	For mounted O-ring on the thread
"SM"	For mounted dust cap as dust protection by transport or storage
"VPA", "V"	For mounted blind plug as dust protection by transport of storage
"STO"	For mounted insert without bore as dust protection by transport or storage

## ALL PLASTIC FITTINGS WITH NPT THREAD

50.1xxPAzzzz      xx after 50.1 means NPT sizes 3/8, 1/2, 3/4, 1, 1-1/4

50.1xxPAzzzz      zzzz after PA may be followed by Suffixes

Suffix	Explanation
"7035", "7001", "SW"	And other color-index to RAL polyamide is "all colors". UL Listed
"BS"	For spiral top
"FL"	V-0 polyamide is UL Listed
"L", "08", "10", "12", "15"	For other thread length
"R"	For reducing sealing ring
"GM", "G"	For mounted locknut on the thread
"OM"	For mounted O-ring on the thread
"SM"	For mounted dust cap as dust protection by transport or storage
"VPA", "V"	For mounted blind plug as dust protection by transport of storage
"STO"	For mounted insert without bore as dust protection by transport or storage
*	

## ALL BRASS FITTINGS WITH METRIC THREAD

50.6xxMzzzzz      xx after 50.6 means metric sizes 12, 16, 20, 25, 32, 40, 50, 63

50.6xxMzzzzz      zzzz after M may be followed by Suffixes

Suffix	Explanation
"L"	For other thread length
"R"	For reducing sealing ring
"EMV"	For Part Series EMV/EMC
"GM", "G"	For mounted locknut on the thread
"SM"	For mounted dust cap as dust protection by transport or storage
"VPA", "V"	For mounted blind plug as dust protection by transport of storage
"STO"	For mounted insert without bore as dust protection by transport or storage
"M1"	Maximum Diameter 48 mm

## ALL BRASS FITTINGS WITH NPT THREAD

50.1xxzzzzz      xx after 50.1 means NPT sizes 3/8, 1/2, 3/4, 1

50.1xxzzzzz      zzzz may be followed by Suffixes

Suffix	Explanation
"R"	For reducing sealing ring
"EMV"	For Part Series EMV/EMC
"GM", "G"	For mounted locknut on the thread
"OM"	For mounted O-Ring on the thread
"SM"	For mounted dust cap as dust protection by transport or storage
"VPA", "V"	For mounted blind plug as dust protection by transport of storage
"STO"	For mounted insert without bore as dust protection by transport or storage

## ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Products designated USR, USL have been investigated using requirements contained in UL 514B.

Products designated CNR, CNL have been investigated using requirements contained in CAN/CSA 22.2 No. 18-98.

## Conditions of Acceptability -

1. **The following part numbers shall be installed in a suitable opening:  
50.6xxPAzzzz, 50.1xxPAzzzz, 50.6xxMzzzz, 50.1xx, 50.0xxPA/R,  
500xxMxxPARzzzz, 50.6xxESzzzz, 50.6xx/xxMzzzz, 50.6xxM/EMVDzzzz.**
2. These devices are for use in Listed equipment.
3. All fittings were subjected to an exposure to UV Light and Water Conditioning Test.
4. **Some Recognized fittings have been evaluated to the manufacturer's specified pull force which is lower than the 35 lb pull requirement in UL514B.**

## MARKING:

Listee's trademark on device. Part No. and metric equivalent, M12, M16, M20, M25, M32, M40, M50 or M63, or Part No. and PG equivalent PG 7, PG 9, PG 11, PG 13.5, PG 16, PG 21, PG 29, PG 36, PG 42 or PG 48 and Part No. and NPT equivalent NPT 3/8, NPT 1/2, NPT 3/4, NPT 1, NPT 1-1/4 on device or carton. Also, the acceptable outside diameter range of cord for a flexible cord fitting shall be marked on the fitting or smallest unit-shipping carton.

