



**RỒNG VÀNG
TECHNOLOGY**



Circular Electrical Connector

P Series

**extended model range
analogues of Russian
ShR, ShRG, ShRGP**

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Description

Connectors of P type are intended for use in DC and AC (frequency up to 3 MHz) electrical circuits with voltage up to 850 V (as peak)

The connectors are produced in four modifications: unsealed Plugs, unsealed Receptacles, hermetically sealed Receptacles and hermetically feed through bulkhead

The connectors are manufactured:

- Receptacles, P-A & P-M types, with backshell (straight shielding, straight non-shielding, elbow shielding, elbow non-shielding) or without backshells
- unsealed Plugs with backshell (straight shielding, straight non-shielding, elbow shielding, elbow non-shielding)

The connectors have threaded coupling

Contacts:

- unsealed Plugs, unsealed Receptacles, hermetically sealed Receptacles: $\varnothing$ 1,5 mm; $\varnothing$ 2,5 mm; $\varnothing$ 3,5 mm, $\varnothing$ 5,5 mm; $\varnothing$ 9,0
- hermetically feed through bulkhead: $\varnothing$ 1,5 mm; $\varnothing$ 2,5 mm; $\varnothing$ 3,5 mm

Contact plating:

- P – silver;
- P-M, P-C – nickel

The connectors are manufactured in all climatic conditions in accordance with the technical conditions GEO.364.107TU, GEO.364.108TU



Technical features

Description	Values
Shell material	anodized aluminum
Contact material	copper alloy/silver
Operating temperature	up -60°C to +50°C
Vibration	acceleration 10 g (1-1000 HZ)
Impact	acceleration 500 g (once); 35 g (multiple times);
Durability	500 cycles
Technical conditions	GEO.364.107TU, GEO.364.108TU

Electrical

Max current rating per contact

Ø 1.5	Ø 2.5	Ø 3.5	Ø 5.5	Ø 9
10 A	25 A	50 A	100 A	200 A

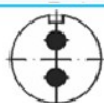
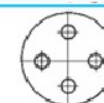
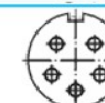
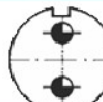
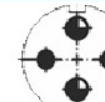
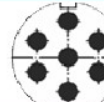
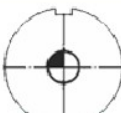
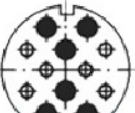
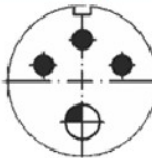
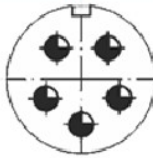
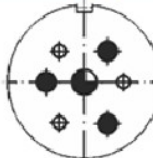
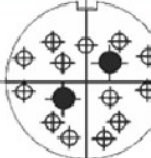
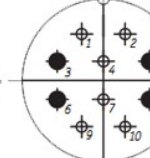
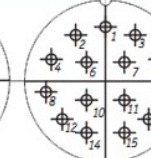
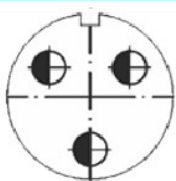
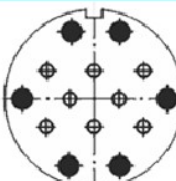
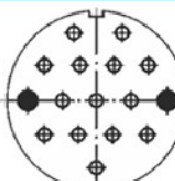
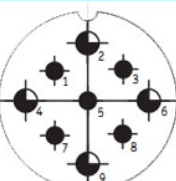
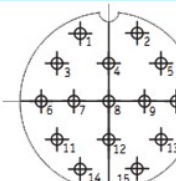
Contact resistance

Contact plating	Ø 1.5	Ø 2.5	Ø 3.5	Ø 5.5	Ø 9
silver	≤ 2,5 mΩ	≤ 1 mΩ	≤ 0,5 mΩ	≤ 0,3 mΩ	≤ 0,15 mΩ
nickel	≤ 5 mΩ	≤ 2 mΩ	≤ 5 mΩ	≤ 0.75 mΩ	≤ 0,6 mΩ

Ordering information

Basic series	P	-20	J	6	A	Q
Shell size:						
for unsealed Connectors: 16, 20, 28, 32, 36, 40, 48, 55, 60						
for hermetically feed through bulkhead: 20, 32, 40, 48, 55						
Contact Type:						
J: Pin						
K: Socket						
Contact group						
Connector Type:						
Omit: unsealed Plug						
A: unsealed Receptacle						
M: Hermetically sealed Receptacles with pin contacts only						
C: hermetically feed through bulkhead with pin contacts only						
Backshell Type for connectors P, P-A, P-M:						
Omit: without backshell for Receptacle, P-A & P-M, & hermetically feed through bulkhead						
P: straight EMI/RFI Backshell						
Q: straight non-shielding Backshell						
R: elbow EMI/RFI Backshell, not applicable for Receptacle, P-M type						
S: elbow non-shielding Backshell, not applicable for Receptacle, P-M type						
Plug thread:						
Omit: for unsealed Plug						
U: for Left Plug (for mating with hermetically feed through bulkhead P-C)						

Contact layouts

Shell size	Number of contacts – Contact group				contact diameter, mm symbol				
12	1-1	16	1-1	2-4	Ø1.5	Ø2.5	Ø3.5	Ø5.5	Ø9
									
20	2-2	3-3	3-4	4-6	4-7	5-9	5-10		
									
28	1-1	2-5	4-2	7-4	6-3				
									
32	1-1	8-2	8-7	10-11	12-3				
									
36	4-1	5-2	7-3	15-6	10-4	15-7			
									
40	3-1	14-3	16-8	9-2	15-6				
									

Contact layouts for sealed connectors – Need to consult

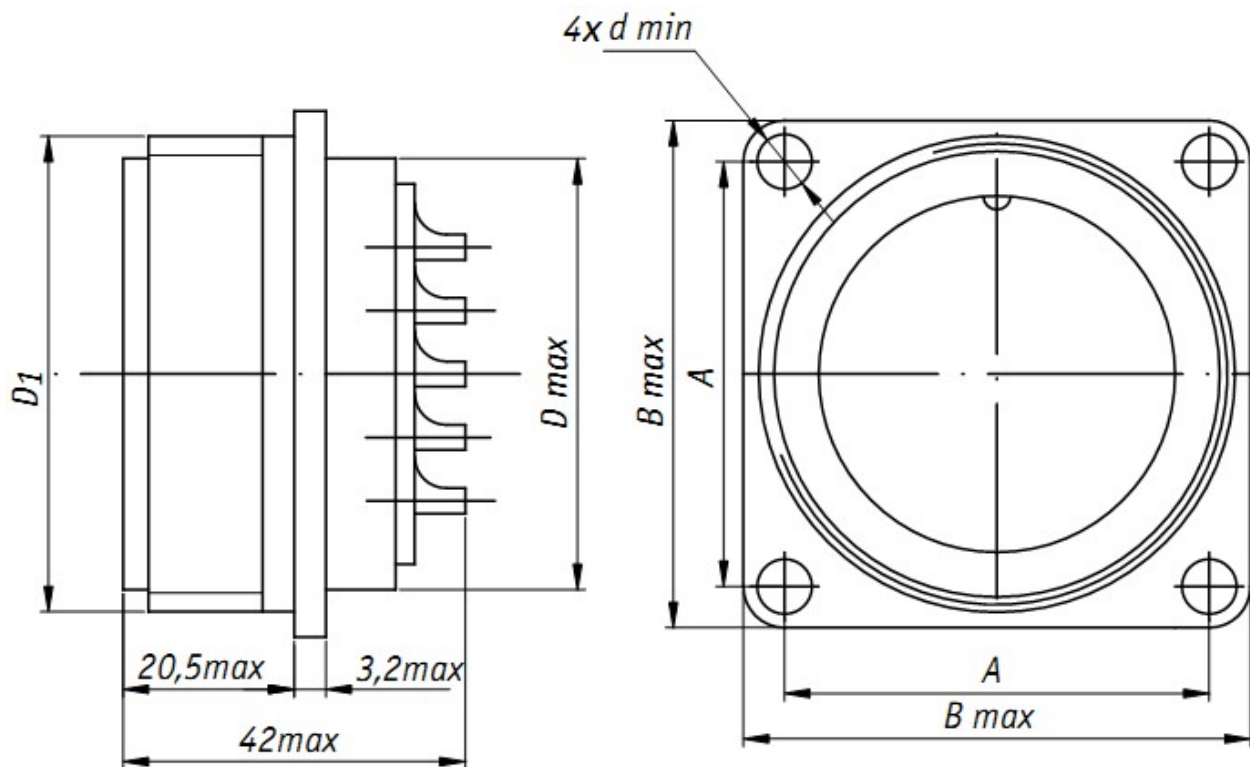
Contact layouts

Shell size	Number of contacts – Contact group	contact diameter, mm symbol
48	2-1 7-2	Ø1.5 Ø2.5 Ø3.5 Ø5.5 Ø9
	9-4 9-3 20-5 26-6	
55	6-1 23-2 30-3	
	31-6 35-8	
60	31-1 45-3 47-5	

Contact layouts for sealed connectors – Need to consult

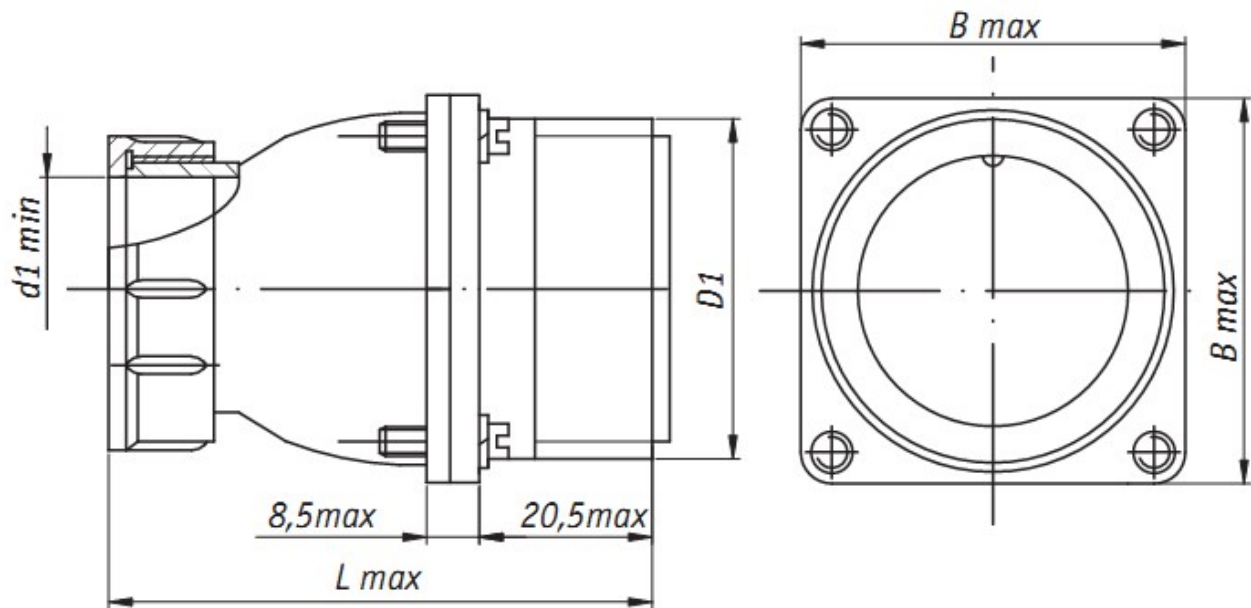
Dimensions

Receptacles, P-A type, without backshell



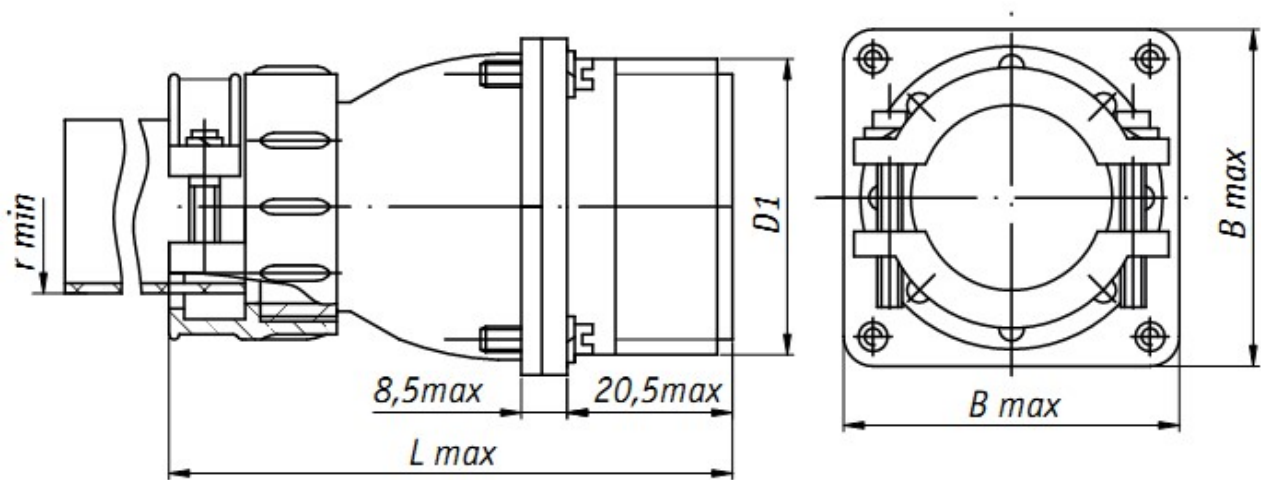
Shell size	A	B	D	D1	d
12	16	22	12	M16x1,5	3,2
16	19	25	16	M20x1,5	3,2
20	22	30	20	M24x1,5	3,2
28	30	38	28	M33x1,5	3,5
32	32	40	32	M36x1,5	3,5
36	34	42	36	M39x1,5	3,5
40	40	48	40	M45x1,5	3,5
48	48	58	48	M52x1,5	4,5
55	52	64	55	M60x1,5	4,5
60	54	68	60	M64x1,5	4,5

Receptacles, P-A type, with straight EMI/RFI Backshell, P type



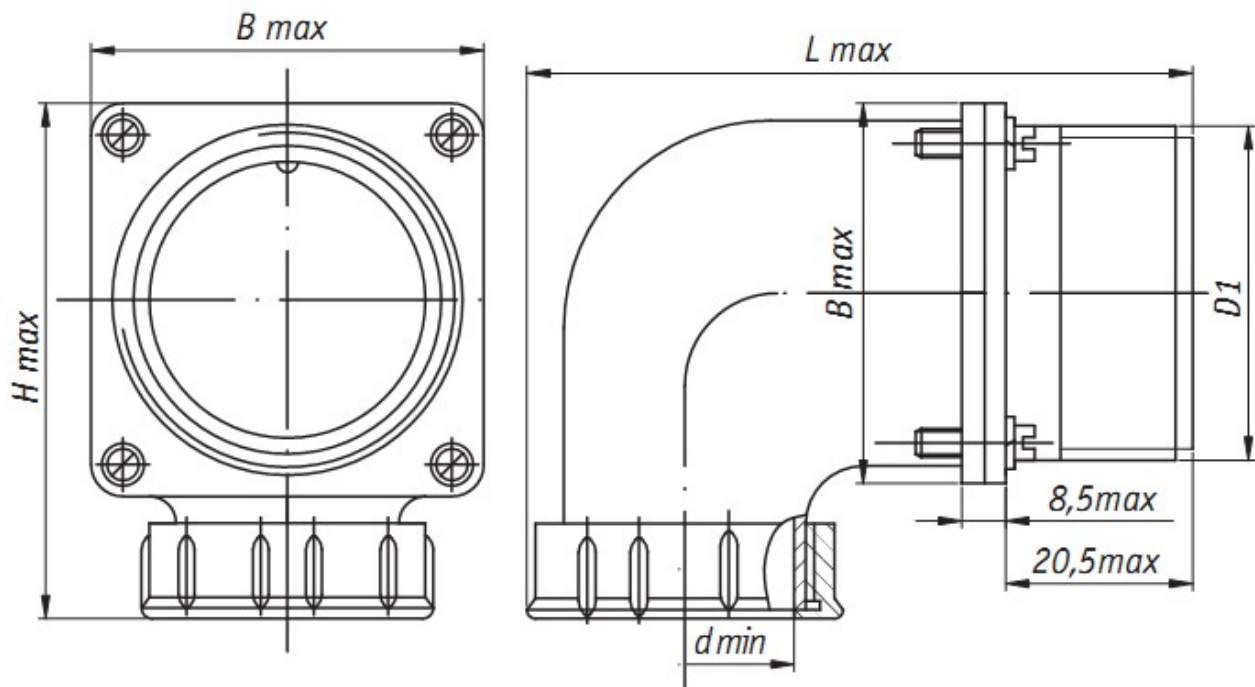
Shell size	B	D1	d1	L
12	22	M16x1,5	8	52,2
16	25	M20x1,5	11	52,2
20	30	M24x1,5	18	55,2
28	38	M33x1,5	25	60,2
32	40	M36x1,5	25	64,2
36	42	M39x1,5	29	66,2
40	48	M45x1,5	32	66,2
48	58	M52x1,5	36	68,2
55	64	M60x1,5	46	68,2
60	68	M64x1,5	50	66,2

Receptacles, P-A type, with straight non-shielding Backshell, Q type



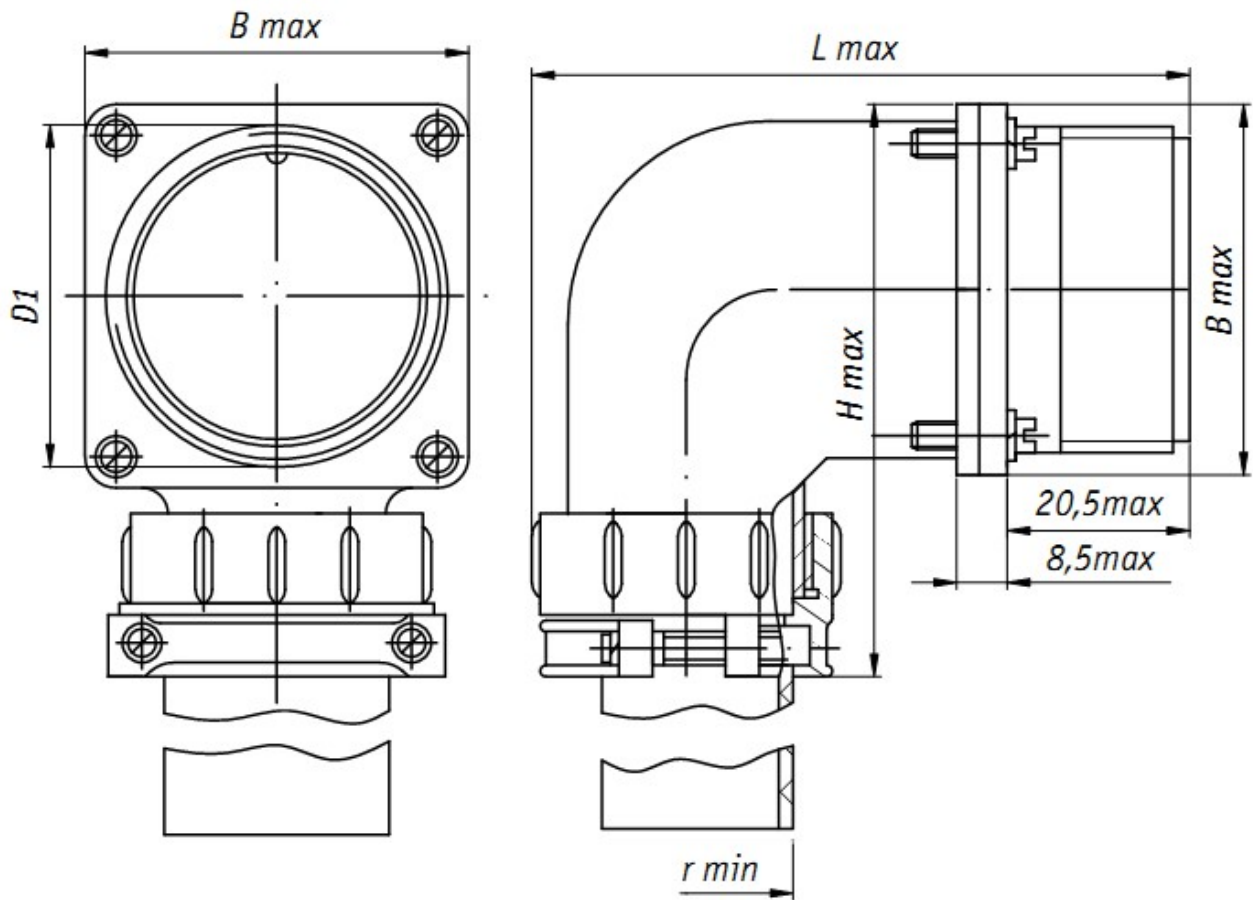
Shell size	B	D1	r	L
12	22	M16x1,5	2,5	64,8
16	25	M20x1,5	3,5	62,8
20	30	M24x1,5	7,0	65,8
28	38	M33x1,5	10,5	74,8
32	40	M36x1,5	10,5	78,8
36	42	M39x1,5	11,5	80,8
40	48	M45x1,5	12,0	80,8
48	58	M52x1,5	16,0	82,8
55	64	M60x1,5	20,0	82,8
60	68	M64x1,5	24,0	80,8

Receptacles, P-A type, with elbow EMI/RFI Backshell, R type



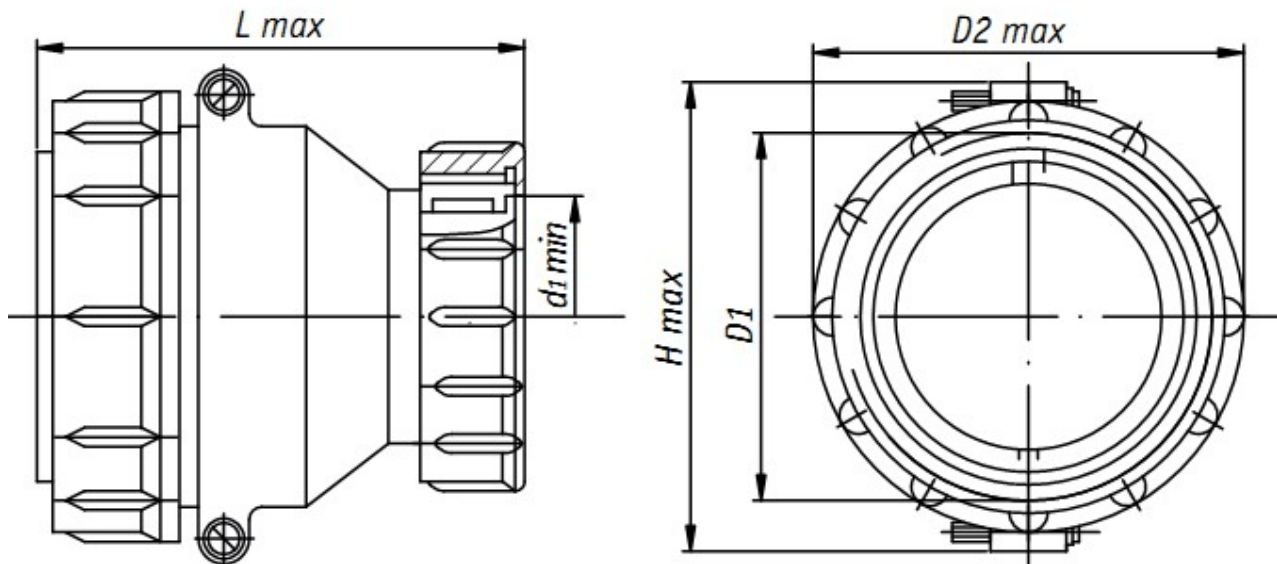
Shell size	B	H	D1	d	L
12	22	36	M16x1,5	8	54,3
16	25	40,3	M20x1,5	11	58,3
20	30	43,8	M24x1,5	18	65,3
28	38	54,8	M33x1,5	25	76,3
32	40	56,8	M36x1,5	25	76,3
36	42	58,8	M39x1,5	29	79,3
40	48	64,8	M45x1,5	32	83,3
48	58	74,8	M52x1,5	36	93,8
55	64	80,8	M60x1,5	46	101,8
60	68	84,8	M64x1,5	50	107,8

Receptacles, P-A type, with elbow non-shielding Backshell, S type



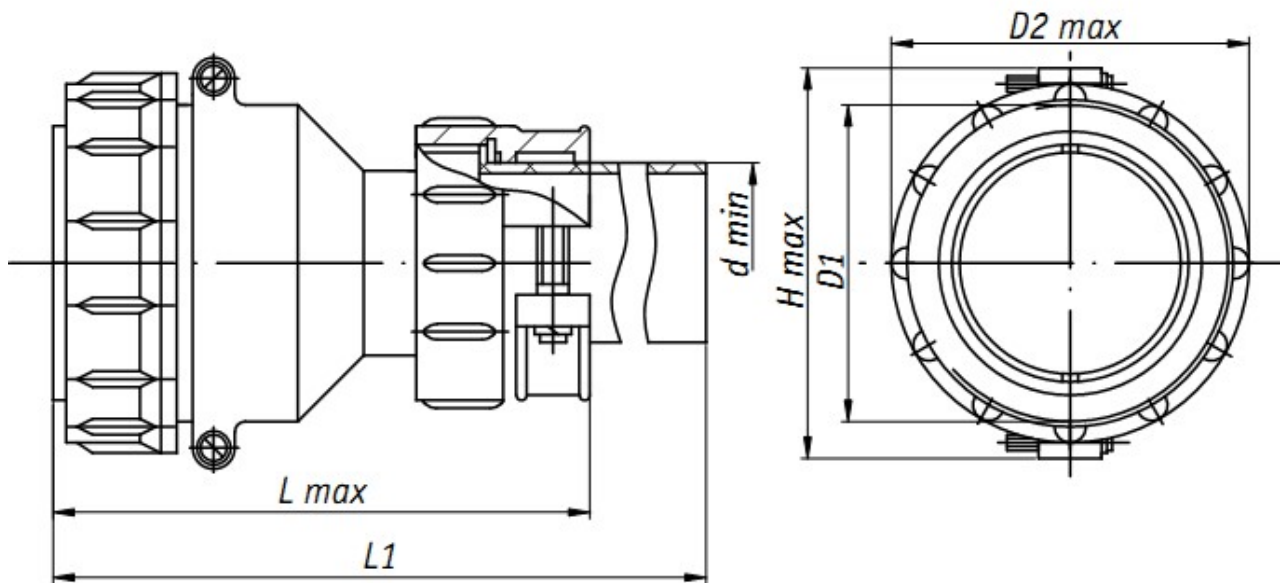
Shell size	B	H	D1	r	L
12	22	49,4	M16x1,5	2,5	53,5
16	25	50,9	M20x1,5	3,5	58,0
20	30	55,4	M24x1,5	7,0	65,0
28	38	69,4	M33x1,5	10,5	76,5
32	40	71,4	M36x1,5	10,5	76,5
36	42	73,4	M39x1,5	11,5	79,0
40	48	79,4	M45x1,5	12,0	84,5
48	58	89,4	M52x1,5	16,0	95,5
55	64	95,4	M60x1,5	20,0	102,5
60	68	99,4	M64x1,5	24,0	108,0

Plugs with straight EMI/RFI Backshell, P type



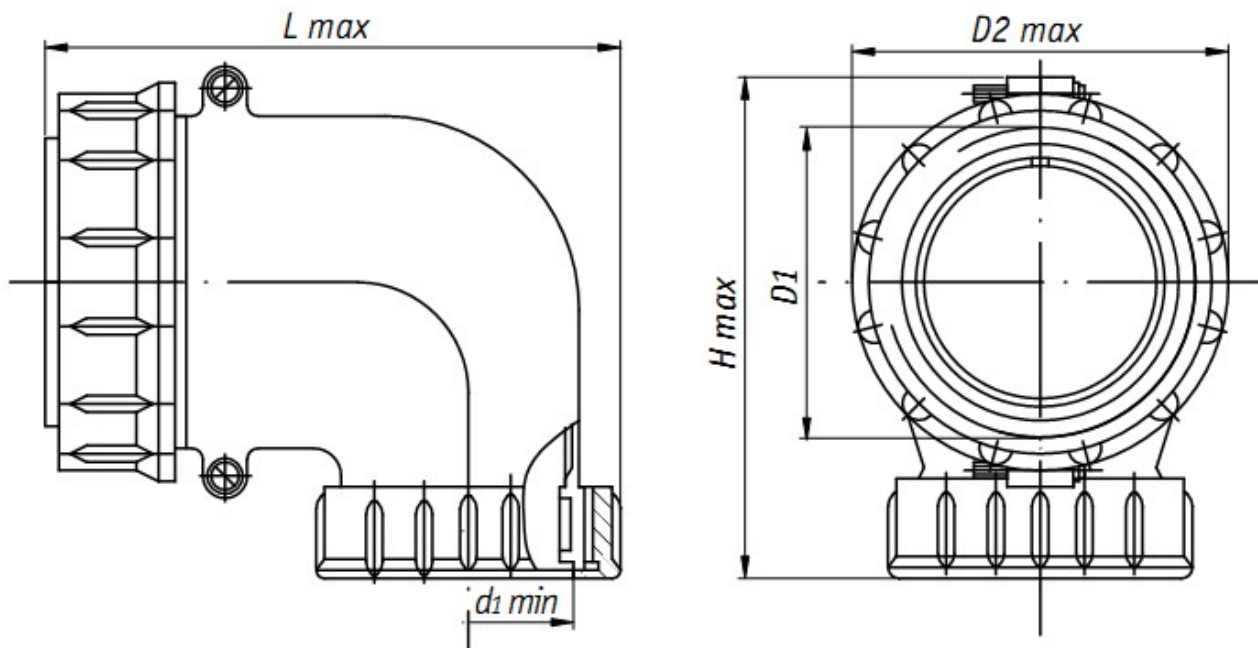
Shell size	H	D1	D2	d1	L
12	25,5	M16x1,5	21,5	8	52,1
16	29,5	M20x1,5	25,5	11	52,1
20	37,1	M24x1,5	29,5	18	56,1
28	49,1	M33x1,5	38,5	25	58,1
32	53,1	M36x1,5	41,5	25	60,1
36	56,1	M39x1,5	45,5	29	64,1
40	61,1	M45x1,5	52,5	32	66,1
48	69,1	M52x1,5	59,5	36	68,1
55	75,1	M60x1,5	67,5	46	68,1
60	81,1	M64x1,5	72,5	50	66,1

Plugs with straight non-shielding Backshell, Q type



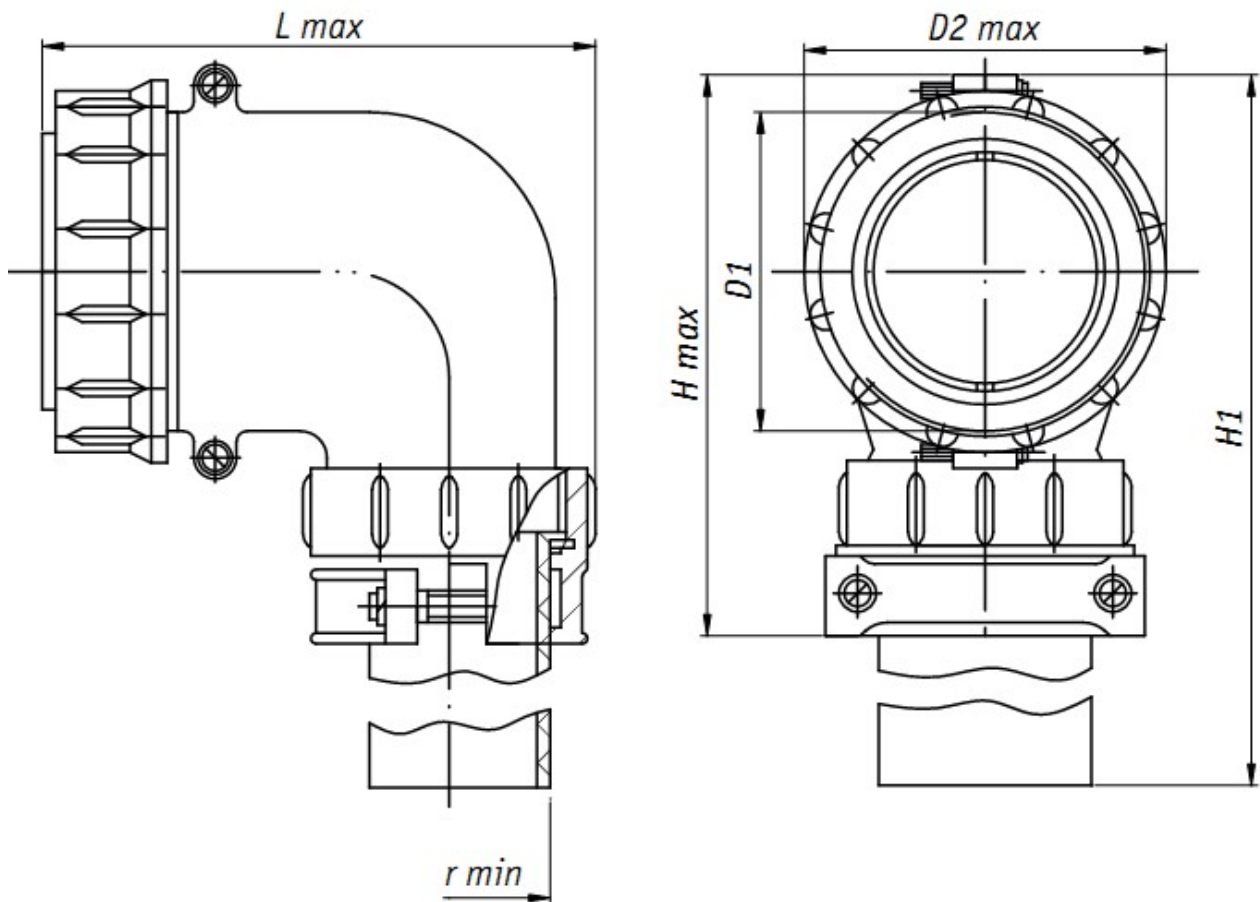
Shell size	H	D1	D2	r	L
12	25,5	M16x1,5	21,5	2,5	64,7
16	29,5	M20x1,5	25,5	3,5	62,7
20	37,1	M24x1,5	29,5	7,0	67,7
28	49,1	M33x1,5	38,5	10,5	72,7
32	53,1	M36x1,5	41,5	10,5	74,7
36	56,1	M39x1,5	45,5	11,5	78,7
40	61,1	M45x1,5	52,5	12,0	80,7
48	69,1	M52x1,5	59,5	16,0	82,7
55	75,1	M60x1,5	67,5	20,0	82,7
60	81,1	M64x1,5	72,5	24,0	80,7

Plugs with elbow EMI/RFI Backshell, R type



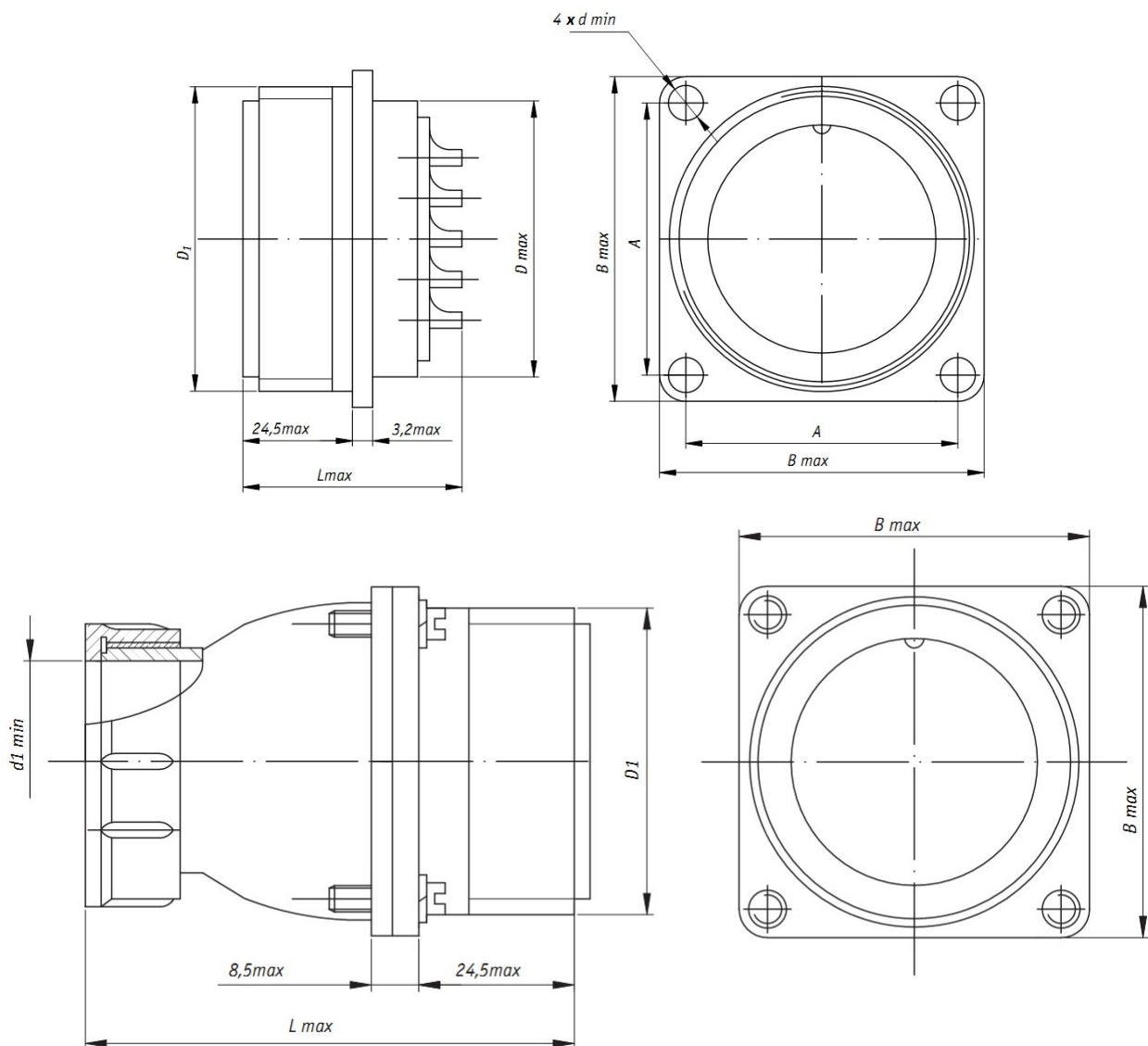
Shell size	H	D1	D2	d1	L
12	38,6	M16x1,5	21,5	8	54,1
16	42,6	M20x1,5	25,5	11	60,1
20	51,4	M24x1,5	29,5	18	68,1
28	63,4	M33x1,5	38,5	25	76,1
32	67,4	M36x1,5	41,5	25	76,1
36	68,9	M39x1,5	45,5	29	79,1
40	73,4	M45x1,5	52,5	32	83,6
48	82,4	M52x1,5	59,5	36	93,6
55	89,4	M60x1,5	67,5	46	101,1
60	95,4	M64x1,5	72,5	50	107,6

Plugs with elbow non-shielding Backshell, S type



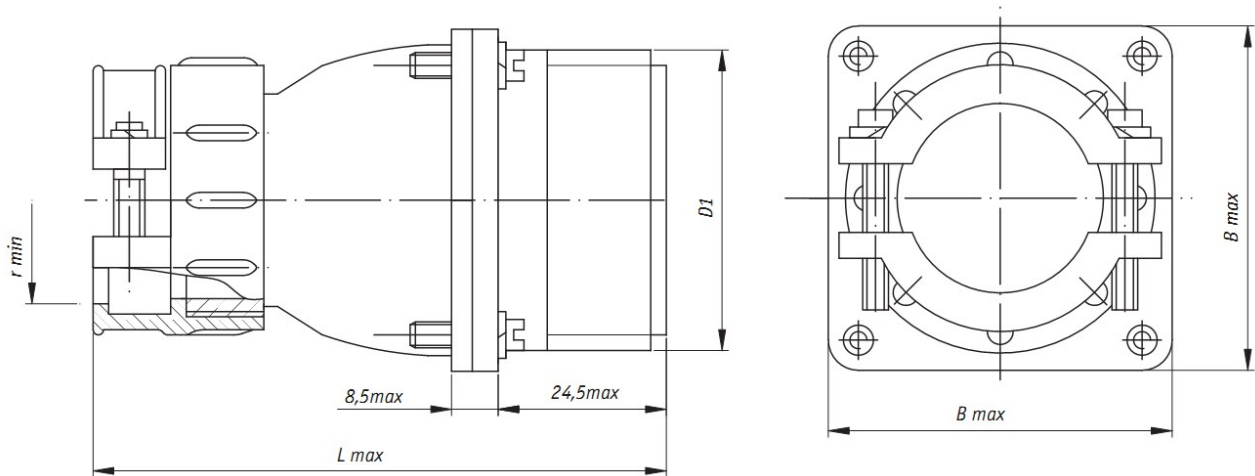
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16	53,2	M20x1,5	25,5	3,5	59,9
20	63,0	M24x1,5	29,5	7,0	67,9
28	78,0	M33x1,5	38,5	10,5	76,4
32	82,0	M36x1,5	41,5	10,5	76,4
36	83,5	M39x1,5	45,5	11,5	78,9
40	88,0	M45x1,5	52,5	12,0	84,4
48	97,0	M52x1,5	59,5	16,0	95,4
55	104,0	M60x1,5	67,5	20,0	101,9
60	110,0	M64x1,5	72,5	24,0	107,9

Receptacles P-M type, without backshell & with backshell, P type



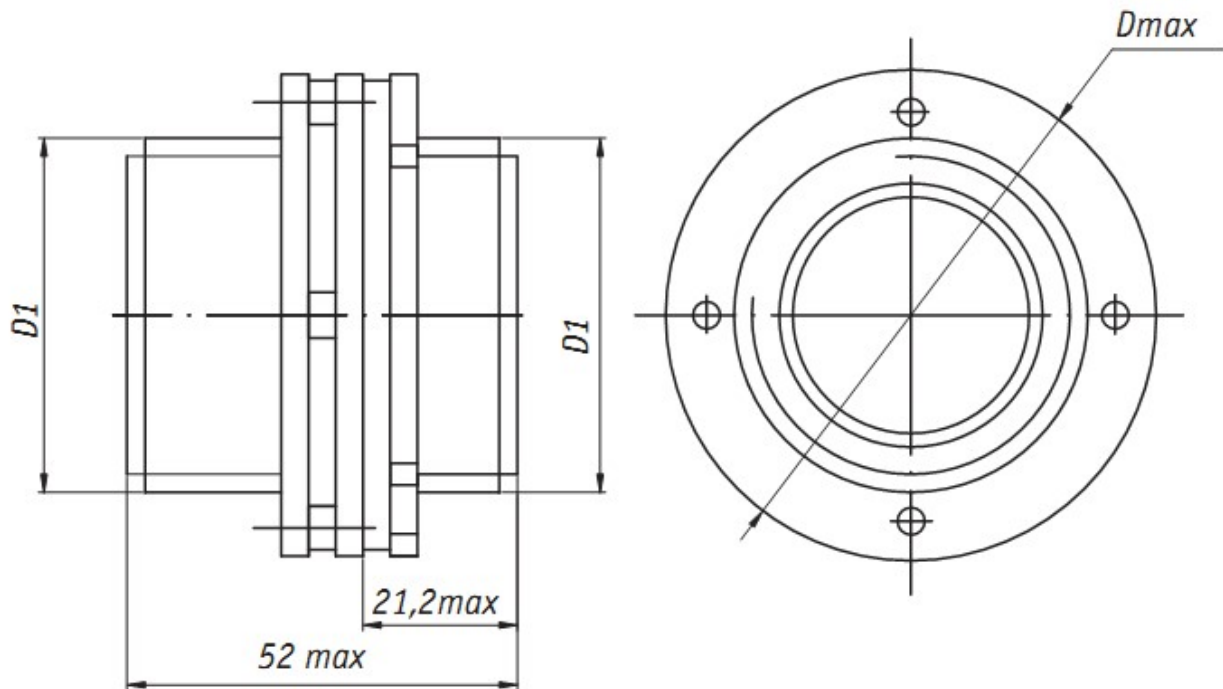
Shell size	B	D1	d1	L
16	26	M20x1,5	11	56,4
20	32	M24x1,5	17	59,4
28	40	M33x1,5	24	64,4
32	44	M36x1,5	24	68,4
36	46	M39x1,5	27	70,4
40	52	M45x1,5	30	70,4
48	60	M52x1,5	36	72,4
55	68	M60x1,5	45	72,4
60	72	M64x1,5	48	70,4

Receptacles P-M type with straight non-shielding Backshell, Q type



Shell size	B	D1	r	L
16	26	M20x1,5	3,5	67
20	32	M24x1,5	7,0	71
28	40	M33x1,5	10,5	79
32	44	M36x1,5	10,5	83
36	46	M39x1,5	11,5	85
40	52	M45x1,5	12,0	85
48	60	M52x1,5	16,0	87
55	68	M60x1,5	20,0	87
60	72	M64x1,5	24,0	85

Feed through bulkhead, P-C type



Shell size	D1	D
20	M24x1,5	38
32	M36x1,5	50
40	M45x1,5	59
48	M52x1,5	66
55	M60x1,5	74

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