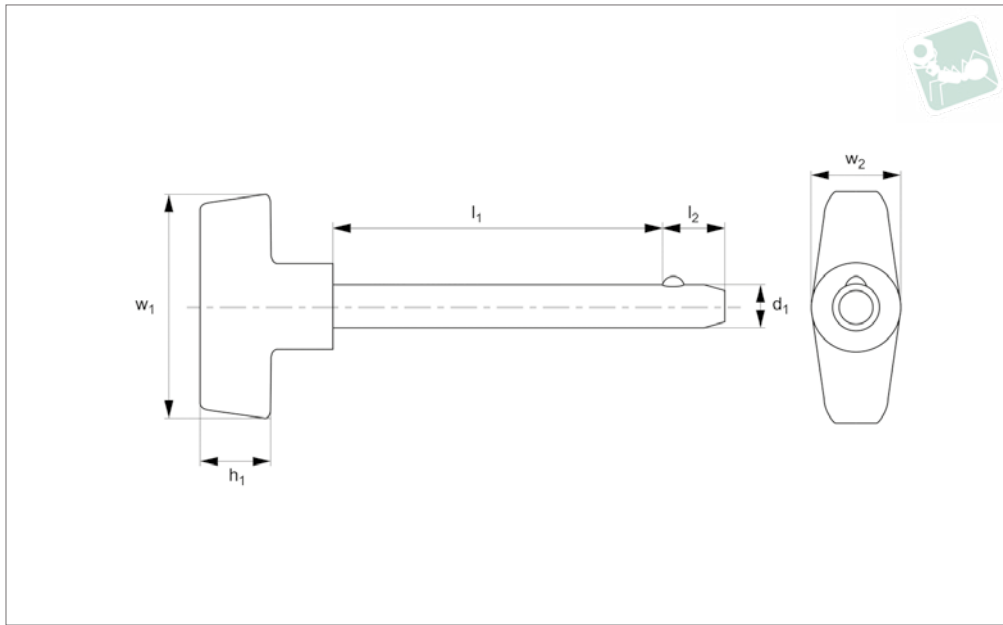


Detent Pin - T Handle

stainless steel

Pull Pins



PP1232

PULL PINS

Material

Shaft: Stainless steel, AISI 303.

Ball & Spring: Stainless steel, AISI 316.

Technical Notes

Detent pins are very economical for use in commercial and military equipment.

The solid body with direct spring loaded ball ensures reliable operation.

For locking telescopic tubing, securing bracket assemblies, as anchor clevis fittings, hinge pins etc where frequent removal is necessary.

Hole sizes - commercial drills provide clearance for our standard pins.

Inch dimensions in brackets ().

Tips

Also available on request in A4 (AISI 316) stainless steel, subject to min. quantity.

Order No.	d ₁ +0.00 -0.08	l ₁ grip +1.50 -0.00	l ₂	w ₁	h	w ₂	Pull out strength kg	Single shear strength kN min.
PP1232.018-050-S	4,76 (3/16")	12,7 (0,5")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-060-S	4,76 (3/16")	15,24 (0,6")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-070-S	4,76 (3/16")	17,78 (0,7")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-080-S	4,76 (3/16")	20,32 (0,8")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-090-S	4,76 (3/16")	22,86 (0,9")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-100-S	4,76 (3/16")	25,4 (1")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-110-S	4,76 (3/16")	27,94 (1,1")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-120-S	4,76 (3/16")	30,48 (1,2")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-130-S	4,76 (3/16")	33,02 (1,3")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-140-S	4,76 (3/16")	35,56 (1,4")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-150-S	4,76 (3/16")	38,1 (1,5")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-160-S	4,76 (3/16")	40,64 (1,6")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-170-S	4,76 (3/16")	43,18 (1,7")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-180-S	4,76 (3/16")	45,72 (1,8")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-190-S	4,76 (3/16")	48,26 (1,9")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-200-S	4,76 (3/16")	50,8 (2")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-210-S	4,76 (3/16")	53,34 (2,1")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-220-S	4,76 (3/16")	55,88 (2,2")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-230-S	4,76 (3/16")	58,42 (2,3")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-240-S	4,76 (3/16")	60,96 (2,4")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-250-S	4,76 (3/16")	63,5 (2,5")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-260-S	4,76 (3/16")	66,04 (2,6")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-270-S	4,76 (3/16")	68,58 (2,7")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-280-S	4,76 (3/16")	71,12 (2,8")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-290-S	4,76 (3/16")	73,66 (2,9")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-300-S	4,76 (3/16")	76,2 (3")	5.08	50.8	28.7	19.05	1,9 - 2,3	12.2
PP1232.018-055-S	6,35 (1/4")	12,7 (0,5")	7.92	50.8	28.7	19.05	2,27 - 2,73	21.7
PP1232.018-065-S	6,35 (1/4")	15,24 (0,6")	7.92	50.8	28.7	19.05	2,27 - 2,73	21.7
PP1232.018-075-S	6,35 (1/4")	17,78 (0,7")	7.92	50.8	28.7	19.05	2,27 - 2,73	21.7
PP1232.018-085-S	6,35 (1/4")	20,32 (0,8")	7.92	50.8	28.7	19.05	2,27 - 2,73	21.7



Order No.	d ₁ +0.00 -0.08	l ₁ grip +1.50 -0.00	l ₂	w ₁	h	w ₂	Pull out strength kg	Single shear strength kN min.
PP1232.018-095-S	6,35 (1/4")	22,86 (0,9")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-100-S	6,35 (1/4")	25,4 (1")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-110-S	6,35 (1/4")	27,94 (1,1")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-120-S	6,35 (1/4")	30,48 (1,2")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-130-S	6,35 (1/4")	33,02 (1,3")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-140-S	6,35 (1/4")	35,56 (1,4")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-150-S	6,35 (1/4")	38,1 (1,5")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-160-S	6,35 (1/4")	40,64 (1,6")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-170-S	6,35 (1/4")	43,18 (1,7")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-180-S	6,35 (1/4")	45,72 (1,8")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-190-S	6,35 (1/4")	48,26 (1,9")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-200-S	6,35 (1/4")	50,8 (2")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-210-S	6,35 (1/4")	53,34 (2,1")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-220-S	6,35 (1/4")	55,88 (2,2")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-230-S	6,35 (1/4")	58,42 (2,3")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-240-S	6,35 (1/4")	60,96 (2,4")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-250-S	6,35 (1/4")	63,5 (2,5")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-260-S	6,35 (1/4")	66,04 (2,6")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-270-S	6,35 (1/4")	68,58 (2,7")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-280-S	6,35 (1/4")	71,12 (2,8")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-290-S	6,35 (1/4")	73,66 (2,9")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-300-S	6,35 (1/4")	76,2 (3")	7,92	50,8	28,7	19,05	2,27 - 2,73	21,7
PP1232.025-050-S	7,94 (5/16")	12,7 (0,5")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.025-060-S	7,94 (5/16")	15,24 (0,6")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.025-070-S	7,94 (5/16")	17,78 (0,7")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.025-080-S	7,94 (5/16")	20,32 (0,8")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.025-090-S	7,94 (5/16")	22,86 (0,9")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-100-S	7,94 (5/16")	25,4 (1")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-110-S	7,94 (5/16")	27,94 (1,1")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-120-S	7,94 (5/16")	30,48 (1,2")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-130-S	7,94 (5/16")	33,02 (1,3")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-140-S	7,94 (5/16")	35,56 (1,4")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-150-S	7,94 (5/16")	38,1 (1,5")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-160-S	7,94 (5/16")	40,64 (1,6")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-170-S	7,94 (5/16")	43,18 (1,7")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-180-S	7,94 (5/16")	45,72 (1,8")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-190-S	7,94 (5/16")	48,26 (1,9")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-200-S	7,94 (5/16")	50,8 (2")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-210-S	7,94 (5/16")	53,34 (2,1")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-220-S	7,94 (5/16")	55,88 (2,2")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-230-S	7,94 (5/16")	58,42 (2,3")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-240-S	7,94 (5/16")	60,96 (2,4")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-250-S	7,94 (5/16")	63,5 (2,5")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-260-S	7,94 (5/16")	66,04 (2,6")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-270-S	7,94 (5/16")	68,58 (2,7")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-280-S	7,94 (5/16")	71,12 (2,8")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-290-S	7,94 (5/16")	73,66 (2,9")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-300-S	7,94 (5/16")	76,2 (3")	9,53	50,8	28,7	19,05	2,27 - 2,73	33,8
PP1232.031-050-S	9,40 (3/8")	12,7 (0,5")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.031-060-S	9,40 (3/8")	15,24 (0,6")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.031-070-S	9,40 (3/8")	17,78 (0,7")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.031-080-S	9,40 (3/8")	20,32 (0,8")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.031-090-S	9,40 (3/8")	22,86 (0,9")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-100-S	9,40 (3/8")	25,4 (1")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-110-S	9,40 (3/8")	27,94 (1,1")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-120-S	9,40 (3/8")	30,48 (1,2")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-130-S	9,40 (3/8")	33,02 (1,3")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-140-S	9,40 (3/8")	35,56 (1,4")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-150-S	9,40 (3/8")	38,1 (1,5")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-160-S	9,40 (3/8")	40,64 (1,6")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-170-S	9,40 (3/8")	43,18 (1,7")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-180-S	9,40 (3/8")	45,72 (1,8")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-190-S	9,40 (3/8")	48,26 (1,9")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-200-S	9,40 (3/8")	50,8 (2")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-210-S	9,40 (3/8")	53,34 (2,1")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-220-S	9,40 (3/8")	55,88 (2,2")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1
PP1232.037-230-S	9,40 (3/8")	58,42 (2,3")	12,7	50,8	28,7	19,05	3,63 - 4,54	49,1



Detent Pin - T Handle

stainless steel

Pull Pins

Order No.	d ₁ +0.00 -0.08	l ₁ grip +1.50 -0.00	l ₂	w ₁	h	w ₂	Pull out strength kg	Single shear strength kN min.
PP1232.037-240-S	9,40 (3/8")	60,96 (2,4")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-250-S	9,40 (3/8")	63,5 (2,5")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-260-S	9,40 (3/8")	66,04 (2,6")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-270-S	9,40 (3/8")	68,58 (2,7")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-280-S	9,40 (3/8")	71,12 (2,8")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-290-S	9,40 (3/8")	73,66 (2,9")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-300-S	9,40 (3/8")	76,2 (3")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-310-S	9,40 (3/8")	78,74 (3,1")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-320-S	9,40 (3/8")	81,28 (3,2")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-330-S	9,40 (3/8")	83,82 (3,3")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-340-S	9,40 (3/8")	86,36 (3,4")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-350-S	9,40 (3/8")	88,9 (3,5")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-360-S	9,40 (3/8")	91,44 (3,6")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-370-S	9,40 (3/8")	93,98 (3,7")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-380-S	9,40 (3/8")	96,52 (3,8")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-390-S	9,40 (3/8")	99,06 (3,9")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-400-S	9,40 (3/8")	101,6 (4")	12.7	50.8	28.7	19.05	3,63 - 4,54	49.1
PP1232.037-050-S	12,70 (1/2")	12,7 (0,5")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.037-060-S	12,70 (1/2")	15,24 (0,6")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.037-070-S	12,70 (1/2")	17,78 (0,7")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.037-080-S	12,70 (1/2")	20,32 (0,8")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.037-090-S	12,70 (1/2")	22,86 (0,9")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-100-S	12,70 (1/2")	25,4 (1")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-110-S	12,70 (1/2")	27,94 (1,1")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-120-S	12,70 (1/2")	30,48 (1,2")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-130-S	12,70 (1/2")	33,02 (1,3")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-140-S	12,70 (1/2")	35,56 (1,4")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-150-S	12,70 (1/2")	38,1 (1,5")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-160-S	12,70 (1/2")	40,64 (1,6")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-170-S	12,70 (1/2")	43,18 (1,7")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-180-S	12,70 (1/2")	45,72 (1,8")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-190-S	12,70 (1/2")	48,26 (1,9")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-200-S	12,70 (1/2")	50,8 (2")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-210-S	12,70 (1/2")	53,34 (2,1")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-220-S	12,70 (1/2")	55,88 (2,2")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-230-S	12,70 (1/2")	58,42 (2,3")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-240-S	12,70 (1/2")	60,96 (2,4")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-250-S	12,70 (1/2")	63,5 (2,5")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-260-S	12,70 (1/2")	66,04 (2,6")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-270-S	12,70 (1/2")	68,58 (2,7")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-280-S	12,70 (1/2")	71,12 (2,8")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-290-S	12,70 (1/2")	73,66 (2,9")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-300-S	12,70 (1/2")	76,2 (3")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-310-S	12,70 (1/2")	78,74 (3,1")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-320-S	12,70 (1/2")	81,28 (3,2")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-330-S	12,70 (1/2")	83,82 (3,3")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-340-S	12,70 (1/2")	86,36 (3,4")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-350-S	12,70 (1/2")	88,9 (3,5")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-360-S	12,70 (1/2")	91,44 (3,6")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-370-S	12,70 (1/2")	93,98 (3,7")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-380-S	12,70 (1/2")	96,52 (3,8")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-390-S	12,70 (1/2")	99,06 (3,9")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-400-S	12,70 (1/2")	101,6 (4")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-410-S	12,70 (1/2")	104,14 (4,1")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-420-S	12,70 (1/2")	106,68 (4,2")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-430-S	12,70 (1/2")	109,22 (4,3")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-440-S	12,70 (1/2")	111,76 (4,4")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-450-S	12,70 (1/2")	114,3 (4,5")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-460-S	12,70 (1/2")	116,84 (4,6")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-470-S	12,70 (1/2")	119,38 (4,7")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-480-S	12,70 (1/2")	121,92 (4,8")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-490-S	12,70 (1/2")	124,46 (4,9")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1
PP1232.050-500-S	12,70 (1/2")	127 (5")	15.88	88.9	28.7	23.88	4,54 - 5,45	87.1

PULL PINS