



NOTE:
ONLY ONE ROD ENGAGED WITH EACH SPIGOT STRAP

PIPE SIZE	STRAP I.D.	STRAP THICKNESS	STRAP WIDTH	ROD DIAMETER	BOLT SIZE	SPACER SIZE	SPACER LENGTH	θ°	BOLT CENTER	WEIGHT (APPROX)
3	—	1/2"	2	5/8"	5/8"	3/4"	1"	—	—	—
4	4.80	1/2"	2	5/8"	5/8"	3/4"	1"	26.179	11.10	72
6	6.90	1/2"	2	3/4"	5/8"	3/4"	1 1/4"	21.418	13.29	98
8	9.05	1/2"	2	3/4"	5/8"	3/4"	1 1/4"	17.105	15.56	100
12	13.20	3/4"	3	1"	7/8"	1"	1 1/2"	16.128	20.56	218
16	17.40	3/4"	3	1"	7/8"	1"	1 1/2"	12.744	24.9	228
20	21.60	3/4"	3	1 1/4"	7/8"	1"	1 3/4"	11.133	29.14	331
24	25.80	3/4"	4	1 1/2"	7/8"	1"	2"	10.000	33.36	520

NOTES:

- RODS TO BE LOW ALLOY STEEL THAT CONFORMS TO ANSI/AWWA C111/A21.11
- BOLTS TO BE A-193-GRADE B7
- NUTS TO BE A-194-GRADE 4 HEAVY HEX
- STRAPS TO BE A-36 STEEL
- ALL JOINTS WITHIN 12 FEET OF A BEND TO BE HARNESSSED
- UPON THE APPROVAL OF THE ENGINEER, A WEDGE ACTION RESTRAINT RING ON THE SPIGOT JOINED TO A SPLIT DUCTILE IRON RING BEHIND THE BELL MAY BE USED. SEE SPECIFICATION XXXXX

PHILADELPHIA WATER DEPARTMENT	PUSH-ON JOINT HARNESSING		
	DRAWN BY: D&B GUARINO	DATE: FEB 2022	
	CHECKED BY: WD	DETAIL ID: THRUST-08	REV.: 1