



Product	Description	Pkg	Each
KNUCKLE RESTRAINTS			
60-100-01	1.5 w: 1.9 lbs	1	
60-100-02	2 w: 2.5 lbs	1	
60-100-25	2.5 w: 3.2 lbs	1	
60-100-03	3 w: 3.4 lbs	1	
60-100-04	4 w: 5.8 lbs	1	



Price is for one (1) complete set consisting of two (2) clamp and bolt sets and two (2) restraint rods with nuts.

Product	Description	Pkg	Each
PIPE TO PIPE RESTRAINTS, STYLE A			
820115	2 w: 7 lbs	1	
820215	2.5 w: 7 lbs	1	
820315	3 w: 10 lbs	1	
820415	4 w: 14 lbs	1	
820615	6 w: 18 lbs	1	
820815	8 w: 26 lbs	1	
821015	10 w: 47 lbs	1	
821215	12 w: 52 lbs	1	
821415	14 w: 113 lbs	1	
821615	16 w: 133 lbs	1	
821815	18 w: 187 lbs	1	



STYLE A price is for one (1) set including one (1) clamp and bolt set, and two (2) eye bolts with nuts.
STYLE B price is for one (1) set including one (1) clamp and bolt set, one (1) backup ring, and four (4) restraint rods with nuts.
STYLE C price is for one (1) set including one (1) clamp and bolt set and six (6) restraint rods with nuts.

Product	Description	Pkg	Each
FITTING TO PIPE RESTRAINTS			
820110	2 w: 4 lbs Style A	1	
820210	2.5 w: 4 lbs Style A	1	
820310	3 w: 5 lbs Style A	1	
820410	4 w: 8 lbs Style A	1	
820610	6 w: 10 lbs Style A	1	
820810	8 w: 15 lbs Style A	1	
821010	10 w: 51 lbs Style B	1	
821210	12 w: 66 lbs Style B	1	
821410	14 w: 50 lbs Style C	1	
821610	16 w: 55 lbs Style C	1	



Price is for one (1) complete set consisting of one (1) clamp and bolt sets, one (1) backup ring, and two (2) T-bolts with nuts.

Product	Description	Pkg	Each
PIPE TO PIPE RESTRAINTS, STYLE B			
820316	3 w: 8 lbs	1	
820416	4 w: 12 lbs	1	
820616	6 w: 16 lbs	1	
820816	8 w: 34 lbs	1	



Price is for one (1) set consisting of two (2) clamp halves and four (4) clamp bolts with nuts.

Product	Description	Pkg	Each
FITTING TO PIPE RESTRAINTS, STYLE D (CLAMSHELL RESTRAINT)			
820611	6 w: 12 lbs	1	
820811	8 w: 16 lbs	1	
821011	10 w: 29 lbs	1	
821211	12 w: 38 lbs	1	



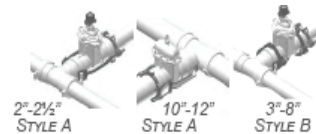
Price is for one (1) joint including one (1) clamp and bolt set and restraint rods with nuts as required.
 3" - 12" for IPS Pipe.
 14" - 18" for C905 Pipe.

Product	Description	Pkg	Each
MECHANICAL JOINT BELL RESTRAINTS			
820335	3 w: 5 lbs	1	
820435	4 w: 7 lbs	1	
820635	6 w: 9 lbs	1	
820835	8 w: 13 lbs	1	
821035	10 w: 22 lbs	1	
821235	12 w: 25 lbs	1	
821835	18 w: 65 lbs	1	



Price is for one (1) set including backup ring and two (2) eye bolts with nuts.

Product	Description	Pkg	Each
FITTING TO VALVE RESTRAINTS			
820320	3 w: 5 lbs	1	
820420	4 w: 7 lbs	1	
820620	6 w: 8 lbs	1	
820820	8 w: 11 lbs	1	



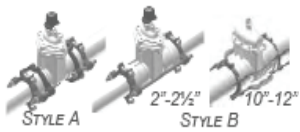
STYLE A price is for one (1) set including one (1) clamp and bolt set, and restraint rods and nuts as required.
STYLE B price is for one (1) set including two (2) backup rings, one (1) clamp and bolt set, two (2) eye bolts with nuts and two (2) T-bolts with nuts.

Product	Description	Pkg	Each
FITTING TO VALVE TO PIPE RESTRAINTS			
820121	2 w: 6 lbs	1	
820221	2.5 w: 6 lbs	1	
820321	3 w: 8 lbs	1	
820421	4 w: 10 lbs	1	
820621	6 w: 14 lbs	1	
820821	8 w: 22 lbs	1	
821021	10 w: 50 lbs	1	
821221	12 w: 60 lbs	1	

Tees w/Run Reductions: Restrain all bells and adjacent branch joints noted. Treat run reduction as a reducer. Restrain as noted adjacent joints to large bell per reducer table



FITTINGS - HARCO - RESTRAINTS



Style A price is for one (1) set including two (2) clamp and bolt sets, two (2) backup rings, and four (4) T-bolts with nuts.

Style B price is for one (1) set including two (2) clamp and bolt sets, and restraint rods with nuts as required.

Product	Description	Pkg	Each
VALVE TO PIPE RESTRAINTS			
820125	2 w: 7 lbs Style B	1	
820225	2.5 w: 7 lbs Style B	1	
820325	3 w: 10 lbs Style A	1	
820425	4 w: 14 lbs Style A	1	
820625	6 w: 18 lbs Style A	1	
820825	8 w: 26 lbs Style A	1	
821025	10 w: 47 lbs Style B	1	
821225	12 w: 52 lbs Style B	1	



Price is for one (1) set including one (1) clamp and bolt set, and restraint rods with nuts.

Product	Description	Pkg	Each
FITTING TO VALVE TO PIPE RESTRAINTS			
820322	3 w: 8 lbs	1	
820422	4 w: 10 lbs	1	
820622	6 w: 14 lbs	1	
820822	8 w: 22 lbs	1	



Price is for one (1) set including two (2) clamp and bolt sets, and restraint rods with nuts as required.

Product	Description	Pkg	Each
VALVE TO PIPE RESTRAINTS, STYLE B			
820326	3 w: 13 lbs	1	
820426	4 w: 17 lbs	1	
820626	6 w: 22 lbs	1	
820826	8 w: 33 lbs	1	

TEES - BRANCH BELL ONLY RESTRAINED:

Use joint restraint ONLY on branch. Number below is number of 20' joints to be restrained with pipe to pipe restraints.

Run Size	Tees (Branch Size)										
	2	2 1/2	3	4	6	8	10	12	14	16	
2	-	-	-	-	-	-	-	-	-	-	
2 1/2	-	-	-	-	-	-	-	-	-	-	
3	-	-	-	-	-	-	-	-	-	-	
4	-	-	-	-	-	-	-	-	-	-	
6	-	-	-	1	1	-	-	-	-	-	
8	-	-	-	1	1	-	-	-	-	-	
10	-	-	-	1	1	-	-	-	-	-	
12	-	-	-	1	1	-	-	-	-	-	
14	-	-	-	1	1	-	-	-	-	-	
16	-	-	-	1	1	-	-	-	-	-	



Use Chart Below For more economical method

TEES - ALL BELLS RESTRAINED:

Use joint restraint on ALL three branches of tee. Number below is number of 20' joints to be restrained with pipe to pipe restraints in branch only direction.

Run Size	Tees (Branch Size)										
	2	2 1/2	3	4	6	8	10	12	14	16	
2	-	-	-	-	-	-	-	-	-	-	
2 1/2	-	-	-	-	-	-	-	-	-	-	
3	-	-	-	-	-	-	-	-	-	-	
4	-	-	-	-	-	-	-	-	-	-	
6	-	-	-	-	1	1	-	-	-	-	
8	-	-	-	-	1	1	-	-	-	-	
10	-	-	-	-	1	1	-	-	-	-	
12	-	-	-	-	1	1	-	-	-	-	
14	-	-	-	-	1	1	-	-	-	-	
16	-	-	-	-	1	1	-	-	-	-	



Use Chart Above

Bends & Caps/Dead Ends: Restrain all bells and the adjacent joints listed in table, (both directions for bends)



Reducers: Restrain Large Bell and adjacent joints listed in table.



Valves: Treat as Dead End. Use Valve Restraint and restrain adjacent upstream joints listed in table. If closed valve can have pressure from either sides, restrain adjacent joints both sides per table.



Bends, Reducers, Caps and Valves

Size	Bends				Reductions			Dead Ends
	11 1/4	22 1/2	45	90	1	2	3	
2	-	-	-	-	-	-	-	1
2 1/2	-	-	-	-	-	-	-	1
3	-	-	-	-	-	-	-	1
4	-	-	-	-	-	1	1	2
6	-	-	-	1	1	2	2	3
8	-	-	-	1	1	3	3	4
10	-	-	-	1	1	2	3	4
12	-	-	-	1	2	2	3	4
14	-	-	-	1	1	2	3	4
16	-	-	-	2	1	2	3	5

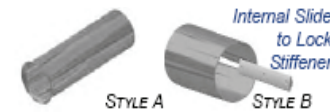


Product	Description	Pkg	Each
JOINT RESTRAINT BOLTS			
82001	5/8 x 3 w: 1 lbs	1	
82002-3	3/4 x 3 w: 1 lbs	1	
82002	3/4 x 4 w: 1 lbs	1	

Product	Description	Pkg	Each
VALVE TO PIPE RODS			
820021-17	2 - 3 w: 1 lbs	1	
820021-20	4 w: 2 lbs	1	
820021-23	6 w: 3 lbs	1	
820021-26	8 w: 4 lbs	1	
820021-33	10, 12 w: 6 lbs	1	

Product	Description	Pkg	Each
FITTING TO VALVE TO PIPE RODS			
82001-12	2 - 3 w: 2 lbs	1	
82002-15	4 w: 3 lbs	1	
82002-19	6 w: 4 lbs	1	
82002-21	8 w: 5 lbs	1	
82010C	10 w: 12 lbs	1	
82012C	12 w: 17 lbs	1	

Product	Description	Pkg	Each
T-BOLTS			
82006	5/8 x 5 w: 1 lbs	1	
82007	3/4 x 6 w: 1 lbs	1	
T-BOLT-9	3/4 x 9 w: 1 lbs	1	
T-BOLT-11	3/4 x 11 w: 2 lbs	1	



Product	Description	Pkg	Each
HDPE STIFFENERS			
825-015	1.5 w: 1 lbs	1	
825-020	2 w: 1 lbs	1	
825-030	3 w: 2 lbs	1	
825-040	4 w: 2 lbs	1	
825-060	6 w: 3 lbs	1	
825-080	8 w: 4 lbs	1	
825-100	10 w: 5 lbs	1	
825-120	12 w: 6 lbs	1	
825-140	14 w: 7 lbs	1	
825-160	16 w: 7 lbs	1	
825-180	18 w: 15 lbs	1	