

Process, Power and Marine Division

SP3D Piping Reference Data

7-Instrument and Specialty Items



 **INTERGRAPH**

Instrument & Piping Specialty Placement

- We have two types of piping specialty/instrument Parts:
 - 1. Stock item: Stock items represent those piping items that are purchased from a manufacturer's catalog, where no real engineering is required other than selecting the correct size, material, etc.
 - 2. Custom-engineered item: custom engineered items are custom-made items according to the process.

Instrument & Piping Specialty Placement

- For custom engineered piping specialty/instrument:
- The catalog data will be based on the tag number or the generic tag number and the size.
- For stock piping specialty/instrument:
- The catalog data will be determined in the same manner as a piping commodity, i.e. based on the contractor commodity code and the size.

Table Look Up for a Stock Instrument

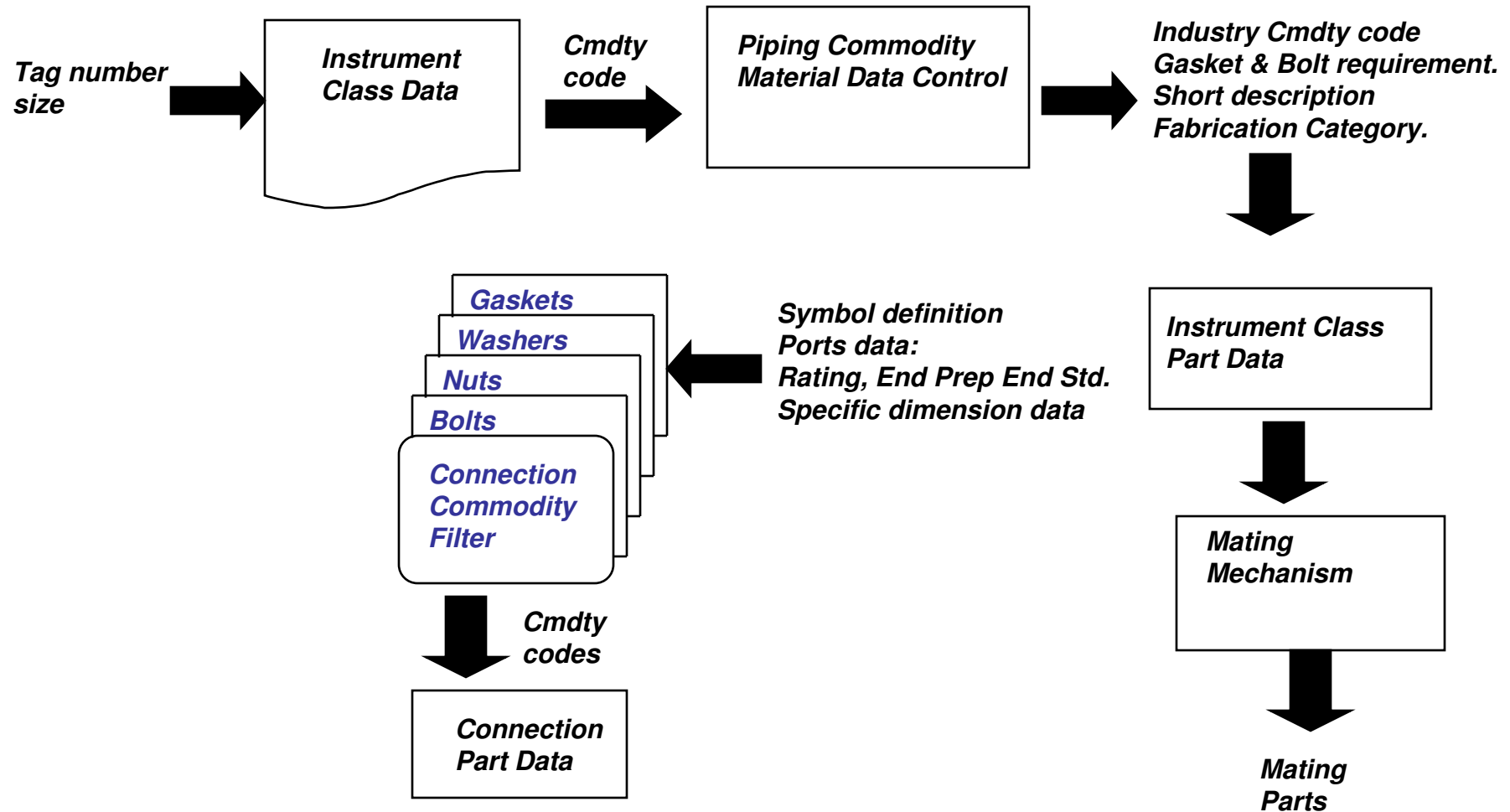
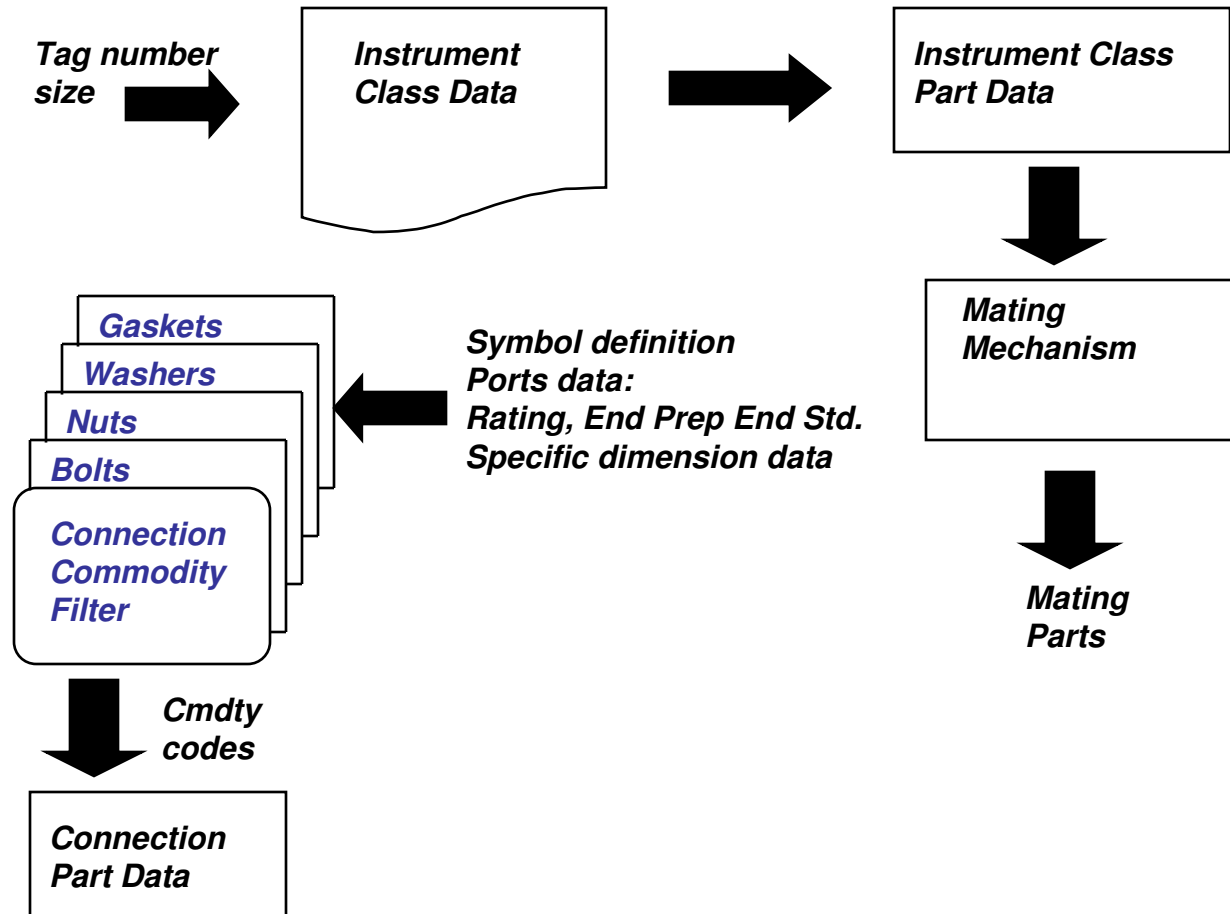


Table Look Up for an Engineered Instrument



Insert a Stock Instrument by Tag Number

Instrument class data

TagNumber	GenericTagNumber	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	RequisitionType	ContractorCommodityCode
BV-1001		15	50	mm	5	INVDABAVRAWA



Piping Commodity Material Control Data

ContractorCommodityCode	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	IndustryCommodityCode	ShortMaterialDescription
INVDABAVRAWA				INVDABAVRAWA	3-Way Ball valve, T-Full Port, Carbon Steel,



3 way valve class

IndustryCommodityCode	CommodityType	GeometryType	MaterialGrade	RequisitionType	PressureRating[1]	EndPreparation[1]	EndStandard[1]	ScheduleThickness[1]	FlowDirection[1]	PressureRating[2]	EndPreparation[2]	EndStandard[2]	ScheduleThickness[2]	FlowDirection[2]	PressureRating[3]	EndPreparation[3]	EndStandard[3]	ScheduleThickness[3]	FlowDirection[3]	Npd[1]: Primary	NpdUnitType[1]	Npd[2]: Secondary	NpdUnitType[2]	Npd[3]: Secondary	NpdUnitType[3]	FaceToCenter	MajorBodyDiameter	OperatorHeight	OperatorLength		
3-Way Ball valve, T-Full Port, Carbon Steel, Flanged Class 150, Lever Operated																															
INVDABAVRAWA	3-way b	75	150	5	150	21	5		3	150	21	5		3	150	21	5		3	15	mm	15	mm	15	mm	65	60	110	140		

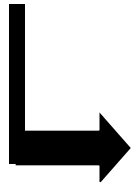
3-Way Ball valve, T-Full Port, Carbon Steel, Flanged Class 150, Lever Operated

Insert an Engineered Instrument by Tag Number

Instrument class data

TagNumber	GenericTagNumber	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	RequisitionType	ContractorCommodityCode
BV-1002					10	

3 way valve class



IndustryCommodityCode	CommodityType	GeometryType	MaterialGrade	RequisitionType	PressureRating[1]	EndPreparation[1]	EndStandard[1]	ScheduleThickness[1]	FlowDirection[1]	PressureRating[2]	EndPreparation[2]	EndStandard[2]	ScheduleThickness[2]	FlowDirection[2]	PressureRating[3]	EndPreparation[3]	EndStandard[3]	ScheduleThickness[3]	FlowDirection[3]	Npd[1]:Primary	NpdUnitType[1]	Npd[2]:Secondary	NpdUnitType[2]	Npd[3]:Secondary	NpdUnitType[3]	FaceToCenter	MajorBodyDiameter	OperatorHeight	OperatorLength
BV-1002	3-way b	75	150	10	150	21	5		3	150	21	5		3	150	21	5		3	65	mm	65	mm	65	mm	125	100	160	700
																				80	mm	80	mm	80	mm	130	110	167	700
																				100	mm	100	mm	100	mm	165	155	225	1100

Piping Specialty Data

- The specialty data represents a summary of the piping specialty part data that is required to be defined by the spec writer on the basis of the piping specialty part number, first size, and second size.
- The part data for custom-engineered piping specialties is considered to be Piping Specification data, and not Piping Catalog data, because this part data is specific to a plant, and does not represent a corporate standard.

Tag Number

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Back to Index																					
2	Head	TagNumber	GenericTagNumber	SpecName	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultiSizeOption	RequisitionType	ContractorCommodityCode	SpecialtyType	GeometryType	FirstSizeSchedule	SecondSizeSchedule	IsGraphicalRepresentation	MaximumTemperature	MaterialGrade	LiningMaterial	CorrosionAllowance
3		1.15.1	1.15.2		1.15.3	1.15.4	N/A	1.15.5	1.15.6	N/A	1.15.7	1.15.8	1.15.9	1.15.10	1.15.12	1.15.13	1.15.15	1.15.17	1.15.71	1.15.19	1.15.22	1.15.26
4	Start																					
5		ST-1001		N1	15	15	mm					5	SPWONICJRFLTST	3160	15							
6			ST-1		25	25	mm	15	20	mm		10		3160	65							
7																						
8		ST-1002			15	15	mm					5	SPWONICJRFLTST3	3165	120							
9		ST-1003									25x20x15	10		3165	130							
10		ST-1004									25x15x15	10		3165	130							
11			ST-4	N0							25x15x15	10		3165	130							
12			CSST1									10		3160	65							
13	End																					

This string specifies the Tag Number to be assigned to the Specialty Item. You can also specific a generic tag number in this field

Requisition Type

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Back to Index																					
2	Head	TagNumber	GenericTagNumber	SpecName	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultiSizeOption	RequisitionType	ContractorCommodityCode	SpecialtyType	GeometryType	FirstSizeSchedule	SecondSizeSchedule	IsGraphicalRepresentation	MaximumTemperature	MaterialGrade	LiningMaterial	CorrosionAllowance
3	!	1.15.1	1.15.2		1.15.31.15.4	N/A	1.15.51.15.6	N/A	1.15.7	1.15.8	1.15.9	1.15.101.15.12	1.15.13	1.15.15	1.15.17	1.15.71	1.15.191.15.22	1.15.26				
4	Start																					
5		ST-1001	N1	15	15	mm						5	SPWONICJRFLTST	3160	15							
6			ST-1	25	25	mm	15	20	mm			10		3160	65							
7																						
8		ST-1002		15	15	mm						5	SPWONICJRFLTST3	3165	120							
9		ST-1003									25x20x15	10		3165	130							
10		ST-1004									25x15x15	10		3165	130							
11			ST-4 NO								25x15x15	10		3165	130							
12			CSST1									10		3160	65							
13	End																					

2	RequisitionType	CodeList Number
3	ShortDescription	
4	<i>This is a system codelist. The use</i>	
5	Stock without validation	5
6	Stock with validation	6
7	Custom Engineered	10

This is an enumerated value which specifies the type of requisition to be used

Specialty Type & Geometry Type

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Back to Index																					
2	Head	TagNumber	GenericTagNumber	SpecName	FirstSizeFrom	FirstSizeTo	FirstSizeUnits	SecondSizeFrom	SecondSizeTo	SecondSizeUnits	MultiSizeOption	RequisitionType	ContractorCommodityCode	SpecialtyType	GeometryType	FirstSizeSchedule	SecondSizeSchedule	IsGraphicalRepresentation	MaximumTemperature	MaterialGrade	LiningMaterial	CorrosionAllowance
3	!	1.15.1	1.15.2		1.15.3	1.15.4	N/A	1.15.5	1.15.6	N/A	1.15.7	1.15.8	1.15.9	1.15.10	1.15.12	1.15.13	1.15.15	1.15.17	1.15.71	1.15.19	1.15.22	1.15.26
4	Start																					
5		ST-1001		N1	15	15	mm					5	SPWONICJRFLTST	3160	15							
6			ST-1		25	25	mm	15	20	mm		10		3160	65							
7																						
8		ST-1002			15	15	mm					5	SPWONICJRFLTST3	3165	120							
9		ST-1003									25x20x15	10		3165	130							
10		ST-1004									25x15x15	10		3165	130							
11				ST-4 NO							25x15x15	10		3165	130							
12			CSST1									10		3160	65							
13	End																					

This is an enumerated value which specifies the specialty type & Geometry Type to be used.

Short Description

	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
1																
2	CorrosionAllowance	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility	ReportingType	GasketRequirements	BoltingRequirements	WeldingRequirement	LooseMaterialRequirements	SubstCapScrewsQuantity	SubstCapScrewCntrCommodit
3	1.15.26	1.15.39	1.15.40	1.15.41	1.15.42	1.15.44	1.15.45	1.15.47	1.15.49	1.15.50	1.15.52	1.15.53	1.15.54	1.15.55	1.15.56	1.15.57
4																
5																
6		Steam Trap female threaded 3000# 2 Ports						7			20	35				
7																
8																
9		Steam Trap female threaded 3000# 3 Ports						7			20	35				
10		Steam Trap female threaded 3000# 3 Ports						7			20	35				
11		Steam Trap female threaded 3000# 3 Ports						7			20	35				
12		Steam Trap female threaded 3000# 2 Ports						7			20	35				
	PipingSpecialtyClassData / InstrumentClassData / MultiportValveOperatorData / PipeStock / NIP / BALR / BALSP / BFYHP / BFYHPGO / CKL															

Gasket and Bolting Req.

	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
1																
2	CorrosionAllowance	ShortMaterialDescription	LocalizedShortMaterialDesc	LongMaterialDescription	GeometricIndustryStandard	Vendor	Manufacturer	FabricationType	SupplyResponsibility	ReportingType	GasketRequirements	BoltingRequirements	WeldingRequirement	LooseMaterialRequirements	SubstCapScrewsQuantity	SubstCapScrewCntrCommodit
3	1.15.26	1.15.39	1.15.40	1.15.41	1.15.42	1.15.44	1.15.45	1.15.47	1.15.49	1.15.50	1.15.52	1.15.53	1.15.54	1.15.55	1.15.56	1.15.57
4																
5																
6		Steam Trap female threaded 3000# 2 Ports						7			20	35				
7																
8																
9		Steam Trap female threaded 3000# 3 Ports						7			20	35				
10		Steam Trap female threaded 3000# 3 Ports						7			20	35				
11		Steam Trap female threaded 3000# 3 Ports						7			20	35				
12		Steam Trap female threaded 3000# 2 Ports						7			20	35				

Instrument & Piping Specialty On the Fly

Definition	PartClassType	SymbolDefinition	SymbolIcon	OA:FaceOfFace	OA:FlowDiameter	OA:InstrumentHeight	OA:InstrumentDiameter	OA:InstrumentWidth	OA:InstrumentWidth1	OA:InsulationThickness	OA:Npd	OA:NpdUnitType	OA:EndPreparation	OA:ScheduleThickness	OA:EndStandard	OA:PressureRating	OA:FlowDirection	OA:Id1	OA:PortIndex1	OA:Npd1	OA:NpdUnitType1	OA:EndPreparation1	OA:ScheduleThickness	OA:EndStandard1	OA:PressureRating1	OA:FlowDirection1	OA:Id2	OA:PortIndex2	OA:Npd2	OA:NpdUnitType2	OA:EndPreparation2	OA:ScheduleThickness	OA:EndStandard2	OA:PressureRating2	OA:FlowDirection2					
	InstrumentsClass	SP3DCICorolisFlowM	SymbolIcons\SP3DCICorolisFlowMeterTy1.gif																																					
CommodityPart																																								
Head	IndustryCommodityCode	FirstSizeSchedule	SecondSizeSchedule	CommodityType	GeometryType	GraphicalRepresentationOrNot	SymbolDefinition	MaterialGrade	LiningMaterial	BendAngle	BendRadius	BendRadiusMultiplier	DryCogX	DryCogY	DryCogZ	WaterWeight	WaterCogX	WaterCogY	WaterCogZ	SurfaceArea	VolumetricCapacity	PipingPointBasis[1]	Id[1]	PressureRating[1]	EndPreparation[1]	EndStandard[1]	ScheduleThickness[1]	FlowDirection[1]	PipingPointBasis[2]	Id[2]	PressureRating[2]	EndPreparation[2]	EndStandard[2]	ScheduleThickness[2]	FlowDirection[2]	DryWeight	Npd[1]	NpdUnitType[1]	Npd[2]	NpdUnitType[2]
Start	Coriolis Flow Meter																																							
End	ICM1																																							

CustomClassInterfaceList Sheet



Provides method for adding custom properties to Objects

HEAD	ClassName	InterfaceName
Start		
A	CPMPipeRun	IJUAPiperunUserProperties
End		

Custom Interface sheet

Head	InterfaceName	CategoryName	AttributeName	Type	UnitsType
Start					
A	IJUAPiperunUserProperties	Company Std	TrainNumber	Char	0
End					

PrimaryUnits	CodeList	Codelisttablenameamespace	OnPropertyPage	ReadOnly	SymbolParameter
0			TRUE	FALSE	