VANTAGE

Multi-Discipline Supports

Support Standards



MDS11.6

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1 Introduction

1.1 About this guide

This document contains details of the supports standards available with the Multi-Discipline Supports (MDS) application.

1.2 An overview of the MDS application

The MDS application allows the user to create standard supports for pipework, cable trays, and HVAC. The application is highly interactive, enabling the user to design supports with the minimum of effort. It is also highly configurable allowing the administrator to define project related defaults to control the design of supports and to determine the range and types of ancillary support components that can be used on the project.

The standard supports in this application, which are designed using structural sections, are template-driven. A default set of structural templates based on British Standard Steelwork Sections is supplied with the application. All of these templates may be configured to suit the needs of an office or project to adopt a relevant national standard for steelwork sections.

1.3 The administrator's role

The administrator is responsible for initial setup of the default files associated with the MDS application (please refer to the *Administration User Guide*) and setup of the structural steel sizes associated with the framework templates. The MDS application is supplied with a British Steel set of framework templates, which the administrator must modify to suit the specific requirements of the project.

1.4 MDS catalogues and specifications

The MDS application is supplied with a catalogue and specification. The range of bore and components in the catalogue are fixed and should be adequate for all projects. The catalogue supplied and associated specification '/MDS' must not be modified by the administrator or any other user.

2 Plotfiles

Each plotfile used by MDS is located in the following directory:

{Software Location}/mds?.?.?/pdmsui/des/mds/plot. Plotfiles can be viewed and printed using AVEVA's plot viewer software (Figure 1).

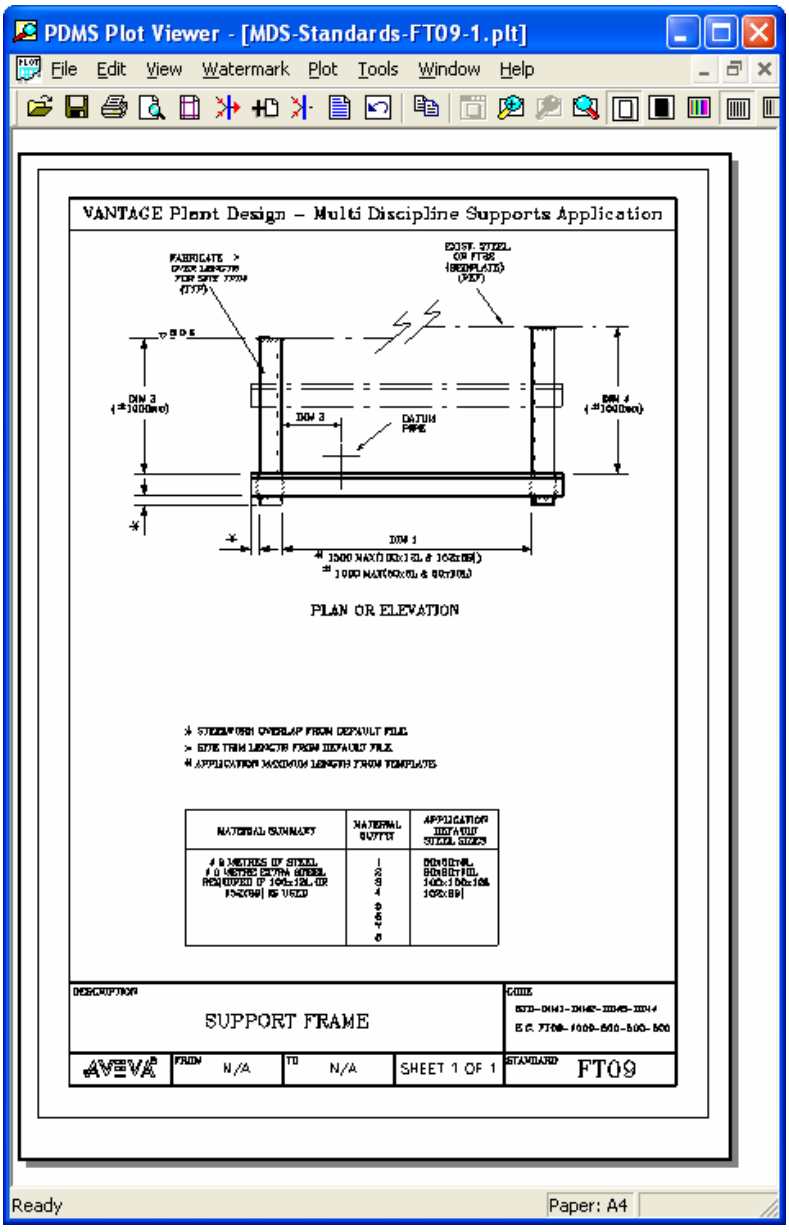


Figure 1 PDMS Plot Viewer

3 Ancillaries

The following standards are available in this section of the MDS application.

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MDS Standard Name	Replacement Name	Default Description
AC01	XAC01	Forged eye rod.
AC02	XAC02	Fully threaded rod.
AC03	XAC03	Turnbuckle.
AC04	XAC04	Clevis.
AC05	XAC05	Weldless eye nut (bow).
AC06	XAC06	Beam welding attachment.
AC07	XAC07	Welding lug.
AC08	XAC08	Clevis plate.
AC09	XAC09	Spherical washer.
AC10	XAC10	Pipe clamp (light).
AC11	XAC11	Pipe clamp (heavy).
AC12	XAC12	Pipe clamp for insulated pipe (light).
AC13	XAC13	Pipe clamp for insulated pipe (heavy).
AC14	XAC14	Pipe clamp for Cu-Ni pipe.
AC15	XAC15	Pipe clamp for insulated Cu-Ni pipe.
AC16	XAC16	Riser clamp.
AC17	XAC17	Vessel Support Lug
AC18	XAC18	Base Plate
AC19	XAC19	Bearing Plate
AC20	XAC20	Collar
AC21	XAC21	Base plate for RTJ Joints

AC22	XAC22	Bolt on base support
AC24	XAC24	Reinforcing Pad
AC25	XAC25	Dummy branch end plate
AC27	XAC27	Break Out Plates with Shim
AC28	XAC28	Strap On Clamp for RTR Pipe
AC29	XAC29	Bolted Clamp Assembly
AC30	XAC30	Adjustable Baseplate
AC31	XAC31	Anchor Bolted Clamp Assembly
AC32	XAC32	Break Out Plates with Shim
AC33	XAC33	End Plate for Rod Hanger Trunnion
AC34	XAC34	Reinforcing Pad
AC35	XAC35	Pipe Clamp
AC36	XAC36	U Strap
AC37	XAC37	Pipe Riser Clamp
AC38	XAC38	Guide Trunnions
AC39	XAC39	Isolation Block Acoustic/General for Trunnion XTT23
AC40	XAC40	General Slide Unit for Trunnion XTT23
AC41	XAC41	Cold Isolation Block for Trunnion XTT23
AC44	XAC44	Clamp for Trunnions for Diam 2" to 24"
AC45	XAC45	Clamp for Dummy Legs for Diam 2" to 24"
AC46	XAC46	LTCS Upper Break Out Plate for Trunnion XTT23
AC47	XAC47	CS Base Plate for Trunnion XTT23
AC48	XAC48	CS Lower Break Out Plate for Trunnion XTT23
AC49	XAC49	Base Plate 1.1/2" to 16"
AC50	XAC50	End Plate 2" to 24"
AC51	XAC51	Support Plate 2" to 24"
AC52	XAC52	Stiffener 2" to 24"
AC53	XAC53	GRE Pipe Clamps for diam 1.1/2" to 40"

AC54	XAC54	CPVC Pipe Clamps for diam 1.1/2" to 12"
AC55	XAC55	4 Bolt Clamp for Trunnions Diam 2.1/2" to 24"
AC56	XAC56	Base Plate Circular
AC57	XAC56	Adjustable Baseplate

4 Anchors

The following standards are available in this section of the MDS application.

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MDS Standard Name	Replacement Name	Default Description
AN01A	XAN01A	Pedestal Anchor Type A.
AN01B	XAN01B	Pedestal Anchor Type B.
AN02	XAN02	Pipe Shoe Anchor.
AN03	XAN03	Pipe Shoe Anchor.
AN04	XAN04	Bolted Anchor shoe for Hot insulated pipe or temp transport NPS 2-36.\AT12,AT13,PIPE-REST\PIPE-REST\
AN05	XAN05	Temporary restraint NPS 2-20.
AN06	XAN06	Bolt on Shoe w/Directional Anchor Cold (Cryogenic) Service (50/100mm Insu) NPS 3 48
AN07A	XAN07	Anchor U Bolt (AB) Black, NPS 2 20.
AN07B	XAN07	Anchor U Bolt (AG) Galvanised, NPS 2 20.
AN07C	XAN07	Anchor U Bolt (AP) Plastic Coated, NPS 2 20.
AN08	XAN08	Pipe Clamp Anchor For RTR Pipe NPS 2-24.
AN09	XAN09	Overstrap Anchor (C.S./Alloy Pipes) NPS 1/220
AN10	XAN10	Directional Anchor NPS 1-36.
AN11	XAN11	Bolt On Anchor For Galvanised Pipe NPS 6-12.
AN12A	XAN12A	Flat Clamp for CS pipes NPS 1.1/2-16.
AN12B	XAN12B	Flat Clamp with Neoprene Sleeve for SS pipes NPS 1.1/2-16.
AN13	XAN13	HALFEN Anchor HCS RADV NPS 1" 6"
AN17	SC47	Anchor U Bolt for Cupro Nickel Lines, NPS 1/2 8.
AN18	SC15	Anchor U Bolt for Carbon Steel Lines, NPS 1/2 8.

5 Attachments

The following standards are available in this section of the MDS application.

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MDS Standard Name	Replacement Name	Default Description
PIPE-REST	XRT01	Pipe Rest
PIPE-REST-INLINE	XRT02	Pipe Rest Inline for Trunnions
AT01	XAT01	Pipe shoe for N.B. 3/4" to 20"
AT02	XAT02	Pipe shoe for N.B. 24" to 48"
AT03	XAT03	Clamp on pipe shoe for N.B. 3/4" to 20"
AT04	XAT04	Clamp on pipe shoe for N.B. for pipe Cu-Ni 2" to 20"
AT05	XAT05	Reinforcing plate (cut from pipe)
AT06	XAT06	Clamp on pipe shoe for stainless or galvanised pipe
AT07	XAT07	Pipe shoe with reinforcing plate for N.B. 3/4" to 20"
AT08	XAT08	Pipe shoe with reinforcing plate for N.B. 24" to 48"
AT09	XAT09	Reinforcing plate (cut from plate)
AT10A	XAT10A	Pedestal support for elbows (type A)
AT10B	XAT10B	Pedestal support for tube(type B)
AT11A	XAT11A	Adjustable pedestal support for elbows (type A)
AT11B	XAT11B	Adjustable pedestal support for tube(type B)
AT12	XAT12	Shoe for C.S. Pipe. Hot Service (63mm Maximum Insu.) NPS 2"-36"
AT13	XAT13	Shoe for C.S. Pipe. Hot Service (75mm/100mm Insu.) NPS 2"-36"
AT14	XAT14	Shoe for Low Temp C.S. Pipe. Inter. Service to -46 c (75mm/100mm Insu.) NPS 2"-36"
AT15	XAT15	Shoe for Low Temp C.S. Pipe. Inter. Service to -46 c (63mm Maximum Insu.) NPS 2"-36"

AT16	XAT16	Bolt on Shoe, Heat Insulated & Uninsulated C.S. NPS 2"-30"
AT17	XAT17	Shoe for RTR Pipe, NPS 2-14
AT18	XAT18	Shoe for Low Temp S.S. Pipe. Inter. Service < -46 c (63mm Maximum Insu.) NPS 2"-36"
AT19	XAT19	Shoe for Low Temp S.S. Pipe. Inter. Service < -46 c (75mm/100mm Insu.) NPS 2"-36"
AT20	XAT20	Clamp on shoe for Cu-Ni NPS 2 24
AT21	XAT21	Pipe Guide for reciprocating Compressor Pipe 2" to 24"
AT22	XAT22	Temporary Transport Anchor for NPS 6-36 Uninsulated C.S.
AT23	XAT23	Welded Cradle Support for Uninsulated Pipe or Shoe, NPS 2 1/2 36
AT24	XAT24	Cradle for RTR Pipe, NPS 2 4
AT25	XAT25	Bolt On Shoe Cold (Cryogenic) Service (25mm/100mm Insu.), NPS 3" 48"
AT26	XAT26	Cradle for Cold Service (30 150mm Insulation), NPS 1/2 2.
AT27	XAT27	Hanger Clamp for RTR Pipe, NPS 2 24.
AT28	XAT28	U Bolt Guide for RTR pipe, NPS 2 24.
AT29	XAT29	Reinforcing Pad for straight pipe/elbow for C.S. pipe.
AT30	XAT30	Special Shim Assembly for Sloping Lines NPS 2-36
AT31	XAT31	Reinforcing Pad for straight pipe/elbow for High Alloy/SST pipe.
AT32	XAT32	Pipe Strap (Lined) for Galv. and S.S Lines NPS 1.1/2 8
AT33A	XAT33A	Trunnion Isolation Pad(Type A 140mm x 140mm) Acoustic/General NPS 1/2 24
AT33B	XAT33B	Trunnion Isolation Pad(Type B 140mm x 250mm) Acoustic/General NPS 1/2 24
AT33C	XAT33C	Trunnion Isolation Pad(Type C 140mm x 300mm) Acoustic/General NPS 1/2 24
AT33D	XAT33D	Trunnion Isolation Pad(Type D 200mm x 200mm) Acoustic/General NPS 1/2 24
AT33E	XAT33E	Trunnion Isolation Pad(Type E 250mm x 250mm) Acoustic/General NPS 1/2 24

AT33F	XAT33F	Trunnion Isolation Pad(Type F Variable Size) Acoustic/General NPS 1/2 24
AT34A	XAT34A	Trunnion Slide Unit(Type A 140mm x 140mm) General NPS 1/2 24
AT34B	XAT34B	Trunnion Slide Unit(Type B 140mm x 250mm) General NPS 1/2 24
AT34C	XAT34C	Trunnion Slide Unit(Type C 140mm x 300mm) General NPS 1/2 24
AT34D	XAT34D	Trunnion Slide Unit(Type D 200mm x 200mm) General NPS 1/2 24
AT34E	XAT34E	Trunnion Slide Unit(Type E 250mm x 250mm) General NPS 1/2 24
AT34F	XAT34F	Trunnion Slide Unit(Type F Variable Size) General NPS 1/2 24
AT35	XAT35	Cold Isolation Block with CS Cage for Trunnion XTT23
AT36	XAT36	Tico Isolation Wrap Temp.-40 to +100 deg.C (C.S./Alloy/Cu-Ni Pipes) NPS 1/2 24.
AT37	XAT37	Tico Isolation Wrap Temp. +101 to +150 deg.C (C.S./Alloy/Cu-Ni Pipes) NPS 1/2 24.
AT38	XAT38	Bonded Neoprene Rubber Isolation Wrap Temp. -40 to +100 deg.C (CS/Alloy/Cu-Ni Pipes) NPS 1/2 24
AT39	XAT39	Bonded Viton Rubber Isolation Wrap Temp. +101 to +150 deg.C (CS/Alloy/Cu-Ni Pipes) NPS 1/2 24
AT40A	XAT40A	Isolation Pad(Type A 140mm x 140mm) Acoustic/General NPS 1/2 24
AT40B	XAT40B	Isolation Pad(Type B 140mm x 250mm) Acoustic/General NPS 1/2 24
AT40C	XAT40C	Isolation Pad(Type C 140mm x 300mm) Acoustic/General NPS 1/2 24
AT40D	XAT40D	Isolation Pad(Type D 200mm x 200mm) Acoustic/General NPS 1/2 24
AT40E	XAT40E	Isolation Pad(Type E 250mm x 250mm) Acoustic/General NPS 1/2 24
AT40F	XAT40F	Isolation Pad(Type F Variable Size) Acoustic/General NPS 1/2 24
AT41A	XAT41A	Slide Unit(Type A 140mm x 140mm) General NPS 1/2 24

AT41B	XAT41B	Slide Unit(Type B 140mm x 250mm) General NPS 1/2 24
AT41C	XAT41C	Slide Unit(Type C 140mm x 300mm) General NPS 1/2 24
AT41D	XAT41D	Slide Unit(Type D 200mm x 200mm) General NPS 1/2 24
AT41E	XAT41E	Slide Unit(Type E 250mm x 250mm) General NPS 1/2 24
AT41F	XAT41F	Slide Unit(Type F Variable Size) General NPS 1/2 24
AT42	XAT42	PTFE Isolation Pad Bonded to Steel NPS 1.1/2 24
AT43	XAT43	Pipe Penetration Single Seal (Packed) Certified A0 & H0 Rating, NPS 1/2 24
AT44	XAT44	Pipe Penetration Single Seal (Packed) Certified A60 & H60 Rating, NPS 1/2 24
AT45	XAT45	Pipe Penetration Double Seal Certified A0 & H0 Rating w/o Insulation & A60 H60 & H120 Rating with Insulation, NPS 1/2 24
AT46	XAT46	Pipe Penetration Double Seal Certified upto J100 Jet Fire Resistance & A60, H60 & H120 Rating, NPS 1/2 24
AT47	XAT47	Cold Isolation Shoe (C.S./Alloy Pipes), NPS2 8
AT48	XAT48	Cold Isolation Shoe (C.S./Alloy Pipes), NPS 10 24
AT49	XAT49	2 Bolt Heavy Series Pipe Clamp with Circular Cold Isolation Block (CS/Alloy Pipes) NPS 1/2 24
AT50	XAT50	Reinforcing Pad for Horizontal and Vertical Cu-Ni Pipes NPS 2.1/2 24
AT51	XAT51	Full Encirclement Reinforcing Sleeve for Cu-Ni Pipes NPS 2.1/2 24
AT52A	XAT52A	Type A Protection Shield for Diam 2" to 24"
AT52B	XAT52B	Type B Protection Shield for Diam 2" to 24"
AT52C	XAT52C	Type C Protection Shield for Diam 2" to 24"
AT52D	XAT52D	Type D Protection Shield for Diam 2" to 24"
AT52E	XAT52E	Type E Protection Shield for Diam 2" to 24"
AT52F	XAT52F	Type F Protection Shield for Diam 2" to 24"
AT53A	XAT53A	Type A 4 Point Shear Lug Bearing for Diam 2" to 24"

AT53B	XAT53B	Type B 2 Point Shear Lug Bearing for Diam 2" to 24"
AT54	XAT54	HP Mud and Cement High Pressure Clamps for Diam 2" to 6"
AT55A	XAT55A	Bolt on Shoe type A Uninsulated C.S. NPS 2"-6"
AT55B	XAT55B	Bolt on Shoe type B Uninsulated C.S. NPS 2"-6"
AT55C	XAT55C	Bolt on Shoe type C Uninsulated C.S. NPS 8"-24"
AT56	XAT56	Clamp for Vertical support NPS 2" to 8"
AT57	XAT57	HALFEN Pipe Shoe HRG-4 NPS 1/2" 6"
AT58	XAT58	HALFEN Pipe Shoe HRG-4 with Spacer Clip HCS AHS 5/1 NPS 1/2" 6"
AT59	XAT59	Trunnion Cold Isolation Block with Integral Base Plate Light
AT60	XAT60	Flanged Supports for FRP/RTR Lines 1" 32"
AT61	XAT61	Plate Attachment Vertical Pipe (CS,LTCS,SS Pipes) NPS 12"-48"
AT62	XAT62	Adjustable Guide Insert Bolts Parallel NPS 2"-48"
AT63	XAT63	Pipe Strap (Lined) for FRP / RTR Lines NPS 1 8
AT64	XAT64	Pipe Strap (Lined) for CuNi Lines NPS 1.1/2 8
AT65	XAT65	Full Encirclement Wrapper Plate (no longitudinal welding) for Pipes NPS 2 48
AT66	XAT66	Stauff Clamp Heavy Series SPAL **,***,* xxx DPAL-AS NPS 1/2 6"
AT67	XAT67	Stauff Clamp Heavy Series SPAL/DUB **,***,* xxx DPAL-AS NPS 1/2" 6"
AT68	XAT68	Trunnion Cold Isolation Block with Integral Base Plate Heavy
AT69	XAT69	Adjustable Guide Insert Bolts Perpendicular NPS 2"-48"
AT70	XAT70	Adjustable Guide Insert Offset to Pipe Bolts Parallel NPS 2"-48"
AT71	XAT71	Adjustable Guide Insert Offset to Pipe Bolts Perpendicular NPS 2"-48"
AT72	XAT72	CPVC Pipe shoes height 100 to 200 for diam 1-1/2" to 24"

AT73	XAT73	GRE Pipe shoes height 100 to 200 for diam 26" to 40"
AT74A	XAT74A	CPVC Protection shield for diam 1/2" to 16" TYPE A
AT74B	XAT74B	CPVC Protection shield for diam 1/2" to 16" TYPE B
AT75A	XAT75A	Anti friction sliding plate for diam 1/2" to 40" TYPE A
AT75B	XAT75B	Anti friction sliding plate for diam 1/2" to 40" TYPE B
AT76	XAT76	Pipe Shoe NPS 10"-20"
AT87	XAT87	GRE Pipe shoes height 100 to 200 for diam 1-1/2" to 24"
AT93	XAT93	GRE Pipe Clamps for diam 1.1/2" to 40"
AT94	XAT94	CPVC Pipe Clamps for diam 1.1/2" to 12"
AT95A	XAT95A	GRE Protection shield for diam 1/2" to 16" TYPE A
AT95B	XAT95B	GRE Protection shield for diam 1/2" to 16" TYPE B
AT96	XAT96	Welded Shoe for N.P.S. 1" 36"
AT97	XAT97	Clamped Shoe (Unlined) for N.P.S. 1" 24"
AT98	XAT98	Welded Shoe with re-pad for N.P.S. 1" 36"
AT99	XAT99	Clamped Shoe (Lined) for N.P.S. 1" 24"
AT100A	XAT100A	Trunnion Ptfe Faced Slide Unit (Suitable for Acoustic & Vibration Isolation) Type A NPS 1/2 24
AT100B	XAT100B	Trunnion Ptfe Faced Slide Unit (Suitable for Acoustic & Vibration Isolation) Type B NPS 1/2 24
AT101A	XAT101A	Ptfe Faced Slide Unit (Suitable for Acoustic & Vibration Isolation) Type A NPS 1/2 24
AT101B	XAT101B	Ptfe Faced Slide Unit (Suitable for Acoustic & Vibration Isolation) Type B NPS 1/2 24
AT102	XAT102	Pipe Strap
AT109	XAT109	Pipe Strap
AT103A	2134	Clamped Pipe Shoe Pihasa 2134 IPE 160 NPS 1/2 4
AT103B	2134	Clamped Pipe Shoe Pihasa 2134 IPE 200 NPS 1/2 16
AT103C	2134	Clamped Pipe Shoe Pihasa 2134 IPE 240 NPS 3 16
AT103D	2134	Clamped Pipe Shoe Pihasa 2134 IPE 270 NPS 5 16

AT104A	2136	Clamped Pipe Shoe Pihasa 2136 Small NPS 1.1/2 30
AT104B	2136	Clamped Pipe Shoe Pihasa 2136 Large NPS 1.1/2 30
AT105	XAT105	Reinforcing Pad for straight pipe/elbow for C.S. pipe.
AT108A	49xx11	Lisega Type 49xx11 Pipe Clamp Base 0 to 350 deg.C NPS 15 150
AT108B	49xx12	Lisega Type 49xx12 Pipe Clamp Base 0 to 350 deg.C NPS 15 125
AT108C	49xx13	Lisega Type 49xx13 Pipe Clamp Base 0 to 350 deg.C NPS 175 900
AT108D	49xx14	Lisega Type 49xx14 Pipe Clamp Base 0 to 350 deg.C NPS 15 900
AT108E	49xx25	Lisega Type 49xx25 Pipe Clamp Base 350 to 500 deg.C NPS 15 900
AT108F	49xx35	Lisega Type 49xx35 Pipe Clamp Base 450 to 560 deg.C NPS 15 900
AT108G	49xx45	Lisega Type 49xx45 Pipe Clamp Base 560 to 600 deg.C NPS 15 900
AT108H	49xx64	Lisega Type 49xx64 Pipe Clamp Base 100 to 350 deg.C NPS 15 125
AT108AX	49xx11	Lisega Type 49xx11 (Larger Pipe Outside Diameter) Pipe Clamp Base 0 to 350 deg.C NPS 65,100,125,150 ONLY
AT108BX	49xx12	Lisega Type 49xx12 (Larger Pipe Outside Diameter) Pipe Clamp Base 0 to 350 deg.C NPS 65,100,125 ONLY
AT108CX	49xx13	Lisega Type 49xx13 (Larger Pipe Outside Diameter) Pipe Clamp Base 0 to 350 deg.C NPS 250,350,400 - ONLY
AT108DX	49xx14	Lisega Type 49xx14 (Larger Pipe Outside Diameter) Pipe Clamp Base 0 to 350 deg.C NPS 65,100,125,150,250,350,400 -ONLY
AT108EX	49xx25	Lisega Type 49xx25 (Larger Pipe Outside Diameter) Pipe Clamp Base 350 to 500 deg.C NPS 65,100,125,150,250,350,400 ONLY
AT108FX	49xx35	Lisega Type 49xx35 (Larger Pipe Outside Diameter) Pipe Clamp Base 450 to 560 deg.C NPS 65,100,125,150,250,350,400 ONLY
AT108GX	49xx45	Lisega Type 49xx45 (Larger Pipe Outside Diameter) Pipe Clamp Base 560 to 600 deg.C NPS

		65,100,125,150,250,350,400 ONLY
AT108HX	49xx64	Lisega Type 49xx64 (Larger Pipe Outside Diameter) Pipe Clamp Base 100 to 350 deg.C NPS 65,100,125 ONLY
AT111	XAT111	Slider Pad for diam 1/2" to 40"

6 Branch reinforcements

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
BR01	XBR01	2 Way Brace for Open Ended Connection to Pipe.
BR02	XBR02	2 Way Brace for Open Ended Connection to Flange.
BR03	XBR03	Bracing for Orifice Connections.
BR04	XBR04	4 Way Brace for Open Ended Connection to Pipe.
BR05	XBR05	3 Way Brace for Open Ended Connection to Flange.
BR06	XBR06	4 Way Brace for Open Ended Connection to Flange.

7 U bolts

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
BT01A	XBT01	U bolt gripped (type A)
BT01B	XBT01	U bolt non-gripped (type B)
BT02	XBT02	U bolt tico coated
BT03	XBT03	U bolt PTFE coated insulation
BT04A	XBT04	U Bolt Guide (GB) Black, NPS 1/2 36.
BT04B	XBT04	U Bolt Guide (GG) Galvanised , NPS 1/2 36.
BT04C	XBT04	U Bolt Guide (GP) Plastic Coated, NPS 1/2 36.
BT05	XBT05	U Bolt gripped with sleeve, NPS 2 24.
BT06	XBT06	U Bolt Guide for Cupro Nickel Lines, NPS 1/2 8.
BT07	XBT07	U Bolt Guide for Carbon Steel Lines, NPS 1/2 8.
BT09	XBT09	Lined U-Bolt guided 2" TO 8"

8 Cable clips

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
RACK-REST	XCA01	Rack Rest
CA02A	XCA02	Cable Clip with Angles
CA02B	XCA02	Cable Clip

9 Cable tray supports

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
CT01	XCT01	'L' Bracket up.
CT02	XCT02	'L' Bracket down.
CT03	XCT03	'L' Bracket Cantilever.
CT04	XCT04	Goal post.
CT05	XCT05	Support frame.
CT06	XCT06	Cantilever bracket.
CT07	XCT07	'T' Post. (Vertical down).
CT08	XCT08	'T' Post. (Vertical up).

10 HVAC supports

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
DT01	XDT01	HVAC duct support frame.
DT02	XDT02	HVAC duct support frame.
DT03	XDT03	HVAC duct cantilever bracket.
DT04	XDT04	HVAC duct 'L' bracket.

11 Multi-discipline supports

The following standards are available in this section of the MDS application.

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MDS Standard Name	Replacement Name	Default Description
FT01	XFT01	Trapeze hanger with welded beam attachments.
FT02	XFT02	Trapeze hanger.
FT03	XFT03	'L' Bracket up.
FT04	XFT04	'L' Bracket down.
FT05	XFT05	'L' Bracket Cantilever.
FT06	XFT06	'L' Bracket Cantilever.
FT07	XFT07	Post.
FT08	XFT08	Goal post.
FT09	XFT09	Support frame.
FT10	XFT10	Half goal post (Vertical down).
FT11	XFT11	Half goal post (Vertical up).
FT12	XFT12	Goal post (Heavy weight).
FT13	XFT13	Braced bracket.
FT14	XFT14	Cantilever bracket.
FT15	XFT15	Beam supports.
FT16	XFT16	Cantilevered Hangertrue
FT17	XFT17	'T' Post heavy weight.
FT18	XFT18	'T' Post light weight. (Vertical up).
FT19	XFT19	'T' Post light Weight. (Vertical down).
FT20	XFT20	Deck Plate Stiffening.
FT21	XFT21	Support from piping.

FT22	XFT22	Bedplate.
FT23	XFT23	Pedestal support.
FT24	XFT24	Steel sleeper.
FT25	XFT25	Packing piece.
FT26	XFT26	Relief Valve.
FT27	XFT27	Rodding point.
FT28	XFT28	Beam penetration.
FT29	XFT29	Base Support for 1/2 2 N.S. pipe.
FT30	XFT30	Pipe Support for Relief Valve Discharge Pipe NPS 2-12
FT31	XFT31	Field Support L frame Uninsulated Pipe (1 Pipe, NB 4 Max)
FT32	XFT32	Field Support L frame Uninsulated Pipe (2 Pipes, NB 3 Max)
FT33	XFT33	Field Support Cantilever from Steel for Uninsulated Horizontal Pipe.
FT34A	XFT34A	Field Support Type A Angle Iron for Uninsulated Pipe, Single line NPS 1/2 to 12.
FT34B	XFT34B	Field Support Type B Angle Iron for Uninsulated Pipe, Single line NPS 1/2 to 12.
FT34C	XFT34C	Field Support Type C Angle Iron for Uninsulated Pipe, Single line NPS 1/2 to 2.
FT35	XFT35	Field Support Support for Vertical Uninsulated Lines NPS 24 Max.
FT36	XFT36	Field Support frame.
FT37	XFT37	Field Support Goal Post frame.
FT38	XFT38	Field Support Field Installed Structural Steel NPS 1/2 to 24.
FT39	XFT39	Field Support Field Installed Structural Steel NPS 1/2 to 24.
FT40	XFT40	Field Support Field Installed Structural Steel NPS 1/2 to 12.
FT41	XFT41	Inverted Pedestal support.
FT42	XFT42	Support frame for vertical pipes

FT43	XFT43	Depth Support frame
FT44	XFT44	GRE/CPVC Pipes 150vertical valve support pipe 2" to 20" dia\PIPE-REST
FT45	XFT45	GRE/CPVC Pipes 150valve support and anchor pipe 2" to 20" dia\PIPE-REST
FT46	XFT46	GRE/CPVC Pipes Base support at flange (150#) pipes 2" to 16" dia\PIPE-REST
FT47	XFT47	Supports for Flanged Valves NPS 2.1/2" to 24"
FT48A	XFT48A	Pedestal support for 2" to 24" pipes.
FT48B	XFT48B	Pedestal support for 2" to 24" pipes.
FT48C	XFT48C	Pedestal support for 2" to 24" pipes.
FT48D	XFT48D	Pedestal support for 2" to 24" pipes.
FT49	XFT49	Support frame for vertical pipes with lugs LT13 or LT15 2.1/2" to 48" pipestrue
FT50	XFT50	Support Bar and Clamp for 2.1/2" to 24" pipestrue
FT51	XFT51	Goal Post with vertical or Angled Legs

12 Guides

The following standards are available in this section of the MDS application.

The standards marked in shading are not available by default in the MDS application and are commented out of the DES-SUPP-DEFS default file. These standards are not recommended for use and have been replaced by other new standards. They may, however, be made available by uncommenting them in the above file if required.

MDS Standard Name	Replacement Name	Default Description
GT01	XGT01	Pipe guide for insulated pipes.
GT02	XGT02	Pipe guide for uninsulated pipes.
GT03	XGT03	Pipe guide for uninsulated pipes. Thin wall.
GT04	XGT04	Pedestal guide or stop.
GT05	XGT05	Pipe guide.
GT06	XGT06	Guide for support shoe (Welded to support Beam) NPS 1-36.
GT07	XGT07	Guide Lug for support shoe (Welded to support Beam) NPS 3/4-36.
GT08	XGT08	Guide Lug for support shoe (Bolted to support Beam)for temporary transport.
GT09	XGT09	Box Clamp Guide for medium loads NPS 6-18.
GT10	XGT10	Box Clamp Guide for high loads NPS 20-42.
GT11	XGT11	Guide for Base Support NPS 2-36
GT12A	XGT12	Pipe A Base Support Guide Hold Down Light NPS 2-36
GT12B	XGT12	PIpe R Base Support Guide Hold Down Light NPS 2-36
GT13	XGT13	Cradle and Guide For Cold Service (30mm 150mm Insulation), NPS 1/2 2.
GT14	XGT14	Heavy Duty Guide Cold (Cryogenic) Service, NPS 3 42.
GT15	XGT15	Pipe Guide, Uninsulated pipe, NPS 1 42.
GT16	XGT16	Box Clamp Guide for medium loads NPS 6-18.
GT17	XGT17	Box Clamp Guide for high loads NPS 20-42.

GT18	XGT18	Guide for pipe shoes for diam 2" to 24"
GT19	XGT19	Lateral Guide for diam 26" to 56"
GT20	XGT20	Duckfoot guide hold down.
GT21	XGT21	Shoe guide hold down.
GT22	XGT22	Overstrap Guide (C.S./Alloy Pipes), NPS 1/2 24
GT23A	XGT23A	Overstrap Guide c/w Isolation Wrap XAT36 (Cu-Ni Pipes), NPS 2 24
GT23B	XGT23B	Overstrap Guide c/w Isolation Wrap XAT37 (Cu-Ni Pipes), NPS 2 24
GT24	XGT24	Overstrap Guide with Damper Springs, NPS 1/2 24
GT25	XGT25	HALFEN Guide HCS RADDV NPS 1" 6"
GT26	XGT26	Guide Lugs for Support shoes Light Angle/Channel Sections NPS 3/4-36.
GT27A	XGT27	Pipe A Base Support Guide Hold Down Heavy NPS 2-36
GT27B	XGT27	PIpe R Base Support Guide Hold Down Heavy NPS 2-36
GT28	XGT28	Guide Lugs for Support shoes Heavy Angle/Channel Sections NPS 3/4-36.
GT29	XGT29	CPVC Pipes Flat Clamp 2" to 6"
GT38	XGT38	GRE Pipes Flat Clamp 2" to 6"
GT39	XGT39	Guides for pipes without insulation 2" to 6"
GT40	XGT40	Band Guides for pipes 2" to 24"
GT44	XGT44	Guide and Hold down welded 2" TO 12"
GT45	XGT45	Guide for bare pipe 2" TO 24"
GT46	XGT46	Pipe Guide, welded, for pipe shoe with sliding package 2" TO 24"
GT47	XGT47	Guide, Clamped to steel, Type A
GT48	XGT48	Clamped Guide on steel structure, Type B
GT49	XGT49	Guide welded extended height
GT50	XGT50	XS Strap Guided 6" TO 28"

13 MDS hangers only

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
FH01	FH T1 M1 B1	Fixed Hanger NPS 3/4 - 6.
FH02	FH T1 M1 B2	Fixed Hanger NPS 8 - 24.
FH03	FH T1 M1 B5	Fixed Hanger NPS 1/2 - 2.
FH04	FH T1 M1 B6	Fixed Hanger NPS 3 - 24.
FH05	FH T1 M2 B1	Fixed Hanger NPS 3/4 - 6.
FH06	FH T1 M2 B2	Fixed Hanger NPS 8 - 24.
FH07	FH T1 M2 B5	Fixed Hanger NPS 1/2 - 2.
FH08	FH T1 M2 B6	Fixed Hanger NPS 3 - 24.
FH09	FH T3 M2 B1	Fixed Hanger NPS 3/4 - 6.
FH10	FH T3 M2 B2	Fixed Hanger NPS 8 - 24.
FH11	FH T3 M2 B5	Fixed Hanger NPS 1/2 - 2.
FH12	FH T3 M2 B6	Fixed Hanger NPS 3 - 24.
FH13	FH T1 M1 B7	Fixed Hanger NPS 2 - 18.
FH13	FH T1 M1 B9	Fixed Hanger NPS 2 - 18.
FH14	FH T1 M2 B7	Fixed Hanger NPS 2 - 18.
FH14	FH T1 M2 B9	Fixed Hanger NPS 2 - 18.
FH15	FH T4 M1 B1	Fixed Hanger NPS 3/4 - 6.
FH16	FH T4 M1 B2	Fixed Hanger NPS 8 - 24.
FH17	FH T4 M1 B5	Fixed Hanger NPS 1/2 - 2.
FH18	FH T4 M1 B6	Fixed Hanger NPS 3 - 24.
FH19	FH T4 M2 B1	Fixed Hanger NPS 3/4 - 6.
FH20	FH T4 M2 B2	Fixed Hanger NPS 8 - 24.
FH21	FH T4 M2 B5	Fixed Hanger NPS 1/2 - 2.
FH22	FH T4 M2 B6	Fixed Hanger NPS 3 - 24.

FH23	FH T1 M1 B8	Fixed Hanger NPS 3 - 24.
FH24	FH T1 M2 B8	Fixed Hanger NPS 3 - 24.
FH25	FH T3 M2 B8	Fixed Hanger NPS 3 - 24.
FH26	FH T4 M1 B8	Fixed Hanger NPS 3 - 24.
FH27	FH T4 M2 B8	Fixed Hanger NPS 3 - 24.
FH28	FH T1 M1 B10	Fixed Hanger NPS 6 - 24.
FH29	FH T1 M2 B10	Fixed Hanger NPS 6 - 24.
FH30	FH T3 M2 B10	Fixed Hanger NPS 6 - 24.
FH31	FH T3 M2 B7	Fixed Hanger NPS 2 - 18.
FH31	FH T3 M2 B9	Fixed Hanger NPS 2 - 18.
FH51	FH T3 B1	Fixed Hanger NPS 3/4 - 6.
FH52	FH T3 B2	Fixed Hanger NPS 8 - 24.
FH53	FH T3 B5	Fixed Hanger NPS 1/2 - 2.
FH54	FH T3 B6	Fixed Hanger NPS 3 - 24.
FH55	FH T3 B7	Fixed Hanger NPS 2 - 18.
FH55	FH T3 B9	Fixed Hanger NPS 2 - 18.
FH56	FH T3 B8	Fixed Hanger NPS 3 - 24.
FH57	FH T3 B10	Fixed Hanger NPS 6 - 24.
FH58	FH T4 M1 B7	Fixed Hanger NPS 2 - 18.
FH58	FH T4 M1 B9	Fixed Hanger NPS 2 - 18.
FH59	FH T4 M1 B10	Fixed Hanger NPS 6 - 24.
FH60	FH T4 M2 B10	Fixed Hanger NPS 6 - 24.
FH61	FH T4 M2 B7	Fixed Hanger NPS 2 - 18.
FH61	FH T4 M2 B9	Fixed Hanger NPS 2 - 18.
VH01	VH T1 M3 B1	Variable Hanger NPS 3/4 - 6.
VH02	VH T1 M3 B2	Variable Hanger NPS 8 - 24.
VH03	VH T1 M3 B5	Variable Hanger NPS 1/2 - 2.
VH04	VH T1 M3 B6	Variable Hanger NPS 3 - 24.

VH05	VH T3 M3 B1	Variable Hanger NPS 3/4 - 6.
VH06	VH T3 M3 B2	Variable Hanger NPS 8 - 24.
VH07	VH T3 M3 B5	Variable Hanger NPS 1/2 - 2.
VH08	VH T3 M3 B6	Variable Hanger NPS 3 - 24.
VH09	VH T9 M1 B1	Variable Hanger NPS 3/4 - 6.
VH10	VH T9 M1 B2	Variable Hanger NPS 8 - 24.
VH11	VH T9 M1 B5	Variable Hanger NPS 1/2 - 2.
VH12	VH T9 M1 B6	Variable Hanger NPS 3 - 24.
VH13	VH T9 M2 B1	Variable Hanger NPS 3/4 - 6.
VH14	VH T9 M2 B2	Variable Hanger NPS 8 - 24.
VH15	VH T9 M2 B5	Variable Hanger NPS 1/2 - 2.
VH16	VH T9 M2 B6	Variable Hanger NPS 3 - 24.
VH17	VH T10 M1 B1	Variable Hanger NPS 3/4 - 6.
VH18	VH T10 M1 B2	Variable Hanger NPS 8 - 24.
VH19	VH T10 M1 B5	Variable Hanger NPS 1/2 - 2.
VH20	VH T10 M1 B6	Variable Hanger NPS 3 - 24.
VH21	VH T10 M2 B1	Variable Hanger NPS 3/4 - 6.
VH22	VH T10 M2 B2	Variable Hanger NPS 8 - 24.
VH23	VH T10 M2 B5	Variable Hanger NPS 1/2 - 2.
VH24	VH T10 M2 B6	Variable Hanger NPS 3 - 24.
VH25	VH T1 M3 B7	Variable Hanger NPS 2 - 18.
VH25	VH T1 M3 B9	Variable Hanger NPS 2 - 18.
VH26	VH T3 M2 B14	Variable Hanger NPS 3 - 24.
VH27	VH T3 M3 B7	Variable Hanger NPS 2 - 18.
VH27	VH T3 M3 B9	Variable Hanger NPS 2 - 18.
VH28	VH T9 M1 B7	Variable Hanger NPS 2 - 18.
VH28	VH T9 M1 B9	Variable Hanger NPS 2 - 18.
VH29	VH T9 M2 B7	Variable Hanger NPS 2 - 18.

VH29	VH T9 M2 B9	Variable Hanger NPS 2 - 18.
VH30	VH T10 M1 B7	Variable Hanger NPS 2 - 18.
VH30	VH T10 M1 B9	Variable Hanger NPS 2 - 18.
VH31	VH T10 M2 B7	Variable Hanger NPS 2 - 18.
VH31	VH T10 M2 B9	Variable Hanger NPS 2 - 18.
VH32	VH T4 M3 B1	Variable Hanger NPS 3/4 - 6.
VH33	VH T4 M3 B2	Variable Hanger NPS 8 - 24.
VH34	VH T4 M3 B5	Variable Hanger NPS 1/2 - 2.
VH35	VH T4 M3 B6	Variable Hanger NPS 3 - 24.
VH36	VH T13 M1 B1	Variable Hanger NPS 3/4 - 6.
VH37	VH T13 M1 B2	Variable Hanger NPS 8 - 24.
VH38	VH T13 M1 B5	Variable Hanger NPS 1/2 - 2.
VH39	VH T13 M1 B6	Variable Hanger NPS 3 - 24.
VH40	VH T13 M2 B1	Variable Hanger NPS 3/4 - 6.
VH41	VH T13 M2 B2	Variable Hanger NPS 8 - 24.
VH42	VH T13 M2 B5	Variable Hanger NPS 1/2 - 2.
VH43	VH T13 M2 B6	Variable Hanger NPS 3 - 24.
VH44	VH T14 M1 B1	Variable Hanger NPS 3/4 - 6.
VH45	VH T14 M1 B2	Variable Hanger NPS 8 - 24.
VH46	VH T14 M1 B5	Variable Hanger NPS 1/2 - 2.
VH47	VH T14 M1 B6	Variable Hanger NPS 3 - 24.
VH52	VH T1 M3 B8	Variable Hanger NPS 3 - 24.
VH53	VH T3 M3 B8	Variable Hanger NPS 3 - 24.
VH54	VH T4 M3 B8	Variable Hanger NPS 3 - 24.
VH55	VH T9 M1 B8	Variable Hanger NPS 3 - 24.
VH56	VH T9 M2 B8	Variable Hanger NPS 3 - 24.
VH57	VH T10 M1 B8	Variable Hanger NPS 3 - 24.
VH58	VH T10 M2 B8	Variable Hanger NPS 3 - 24.

VH59	VH T13 M1 B8	Variable Hanger NPS 3 - 24.
VH60	VH T13 M2 B8	Variable Hanger NPS 3 - 24.
VH61	VH B15	Variable Pedestal NPS 3 - 24.
VH62	VH B16	Variable Pedestal NPS 3 - 24.
VH63	VH T1 M1 B13	Variable Hanger NPS 3 - 24.
VH64	VH T1 M2 B13	Variable Hanger NPS 3 - 24.
VH65	VH T3 M2 B13	Variable Hanger NPS 3 - 24.
VH66	VH T4 M1 B13	Variable Hanger NPS 3 - 24.
VH67	VH T4 M2 B13	Variable Hanger NPS 3 - 24.
VH68	VH T1 M3 B10	Variable Hanger NPS 6 - 24.
VH69	VH T3 M3 B10	Variable Hanger NPS 6 - 24.
VH70	VH T4 M3 B10	Variable Hanger NPS 6 - 24.
VH71	VH B17	Variable Pedestal NPS 3 - 24.
VH80	VH T1 M3 B11	Variable Hanger NPS 3 - 24.
VH81	VH T3 M3 B11	Variable Hanger NPS 3 - 24.
VH82	VH T4 M3 B11	Variable Hanger NPS 3 - 24.
VH83	VH T9 M1 B11	Variable Hanger NPS 3 - 24.
VH84	VH T9 M2 B11	Variable Hanger NPS 3 - 24.
VH85	VH T10 M1 B11	Variable Hanger NPS 3 - 24.
VH86	VH T10 M2 B11	Variable Hanger NPS 3 - 24.
VH87	VH T13 M1 B11	Variable Hanger NPS 3 - 24.
VH88	VH T13 M2 B11	Variable Hanger NPS 3 - 24.
VH89	VH T14 M1 B11	Variable Hanger NPS 3 - 24.
VH101	VH T3 B13	Variable Hanger NPS 3 - 24.
VH102	VH T3 B14	Variable Hanger NPS 3 - 24.
VH103	VH T1 M1 B14	Variable Hanger NPS 3 - 24.
VH104	VH T4 M1 B14	Variable Hanger NPS 3 - 24.
VH105	VH T9 M1 B10	Variable Hanger NPS 6 - 24.

VH106	VH T10 M1 B10	Variable Hanger NPS 6 - 24.
VH107	VH T13 M1 B10	Variable Hanger NPS 6 - 24.
VH108	VH T14 M1 B10	Variable Hanger NPS 6 - 24.
VH109	VH T13 M1 B7	Variable Hanger NPS 2 - 18.
VH109	VH T13 M1 B9	Variable Hanger NPS 2 - 18.
VH110	VH T14 M1 B7	Variable Hanger NPS 2 - 18.
VH110	VH T14 M1 B9	Variable Hanger NPS 2 - 18.
VH111	VH T14 M1 B8	Variable Hanger NPS 3 - 24.
VH113	VH T9 M2 B10	Variable Hanger NPS 6 - 24.
VH114	VH T10 M2 B10	Variable Hanger NPS 6 - 24.
VH115	VH T13 M2 B10	Variable Hanger NPS 6 - 24.
VH117	VH T13 M2 B7	Variable Hanger NPS 2 - 18.
VH117	VH T13 M2 B9	Variable Hanger NPS 2 - 18.
VH118	VH T4 M2 B14	Variable Hanger NPS 3 - 24.
VH120	VH T1 M2 B14	Variable Hanger NPS 3 - 24.
VH121	VH T4 M3 B7	Variable Hanger NPS 2 - 18.
VH121	VH T4 M3 B9	Variable Hanger NPS 2 - 18.

14 Lugs

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
LT01A	XLT01A	Shear Lug (Lug Only)
LT01B	XLT01B	Shear Lug (With riser clamp)
LT01C	XLT01C	Shear Lug (With riser clamp)
LT02	XLT02	Vertical Support w/lug for NPS 1/2-4
LT03A	XLT03	Type A CS and Alloy Support Lug for Vertical Pipes NPS 2-3
LT03B	XLT03	Type B CS and Alloy Support Lug for Vertical Pipes NPS 4-24
LT03C	XLT03	Type C SS Support Lug for Vertical Pipes NPS 2-3
LT03D	XLT03	Type D SS Support Lug for Vertical Pipes NPS 4-24
LT04	XLT04	Support Lug for vertical Hot insulated pipes NPS 2-36
LT05A	XLT05	Rod Hanger Welded Elbow Lug for 1/2" Pin/Bolt Diameter NPS 2-18
LT05B	XLT05	Rod Hanger Welded Elbow Lug for 5/8" Pin/Bolt Diameter NPS 2-18
LT05C	XLT05	Rod Hanger Welded Elbow Lug for 3/4" Pin/Bolt Diameter NPS 3-18
LT05D	XLT05	Rod Hanger Welded Elbow Lug for 7/8" Pin/Bolt Diameter NPS 3-18
LT05E	XLT05	Rod Hanger Welded Elbow Lug for 1" Pin/Bolt Diameter NPS 3-18
LT05F	XLT05	Rod Hanger Welded Elbow Lug for 1.1/8" Pin/Bolt Diameter NPS 4-18
LT05G	XLT05	Rod Hanger Welded Elbow Lug for 1.3/8" Pin/Bolt Diameter NPS 4-18
LT05H	XLT05	Rod Hanger Welded Elbow Lug for 1.5/8" Pin/Bolt Diameter NPS 6-18
LT06	XLT06	Single Support Bracket Reinforced Vertical Pipe (Cu-Ni Pipes)NPS 2-24

LT07	XLT07	Vertical Support on Platforms for Diam 2" to 8"
LT08A	XLT08	Rod Hanger Welded Pipe Lug for 1/2" Pin/Bolt Diameter NPS 2-18
LT08B	XLT08	Rod Hanger Welded Pipe Lug for 5/8" Pin/Bolt Diameter NPS 2-18
LT08C	XLT08	Rod Hanger Welded Pipe Lug for 3/4" Pin/Bolt Diameter NPS 3-18
LT08D	XLT08	Rod Hanger Welded Pipe Lug for 7/8" Pin/Bolt Diameter NPS 3-18
LT08E	XLT08	Rod Hanger Welded Pipe Lug for 1" Pin/Bolt Diameter NPS 3-18
LT08F	XLT08	Rod Hanger Welded Pipe Lug for 1.1/8" Pin/Bolt Diameter NPS 4-18
LT08G	XLT08	Rod Hanger Welded Pipe Lug for 1.3/8" Pin/Bolt Diameter NPS 4-18
LT08H	XLT08	Rod Hanger Welded Pipe Lug for 1.5/8" Pin/Bolt Diameter NPS 6-18
LT09	XLT09	GRE / CPVC Pipes Vertical Support on Platforms for Diam 2" to 8"
LT10	XLT10	GRE / CPVC Pipes saddle shear lug bearing for Diam 1 1/2" to 24" (Type A) Vertical only
LT11	XLT11	GRE / CPVC Pipes saddle shear lug bearing for Diam 1 1/2" to 24" (Type B) Horizontal only
LT12	XLT12	GRE Pipes saddle shear lug bearing for Diam 26" to 40" (Type C) Horizontal only
LT13A	XLT13A	Welded Lugs (1 Lug) for Carbon Steel and Stainless Steel 2" to 24"
LT13B	XLT13B	Welded Lugs (4 Lugs) for Carbon Steel and Stainless Steel 2" to 24"
LT14A	XLT14A	Welded Lugs (2 LugS) for Carbon Steel and Stainless Steel 2.5" to 24"
LT14B	XLT14B	Welded Lugs (1 Lug) for Carbon Steel and Stainless Steel 2.5" to 24"
LT15	XLT15	Welded Lugs (4 Lugs) for guide for Carbon Steel and Stainless Steel 2" to 24"
LT16A	XLT16A	Welded Lugs (4 Lugs) for Carbon Steel and Stainless Steel 2.5" to 24"

LT16B	XLT16B	Welded Lugs (6 Lugs) for Carbon Steel and Stainless Steel 2.5" to 24"

15 Preliminary support

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
PR01	ANCHOR	Preliminary Anchor
PR02	GUIDE	Preliminary Guide
PR03	CONSTANT	Preliminary Constant Effort Spring Hanger
PR04	FIXED	Preliminary Fixed Hanger
PR05	VARIABLE	Preliminary Variable Spring Hanger
PR06	HOLD-DOWN	Preliminary Hold Down
PR07	REST	Preliminary Rest
PR08	STOP	Preliminary Stop
PR09	xxxx	Preliminary xxxx
PR10	xxxx	Preliminary xxxx
PR11	xxxx	Preliminary xxxx
PR12	xxxx	Preliminary xxxx
PR13	xxxx	Preliminary xxxx
PR14	xxxx	Preliminary xxxx
PR15	xxxx	Preliminary xxxx
PR16	xxxx	Preliminary xxxx
PR17	xxxx	Preliminary xxxx
PR18	xxxx	Preliminary xxxx

16 Stops

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
ST01	XST01	Pipe stop for insulated C.S. pipes.
ST02	XST02	Pipe stop for insulated C.S. pipes.
ST03	XST03	Pipe stop for uninsulated C.S. pipes.
ST04	XST04	Pipe stop for uninsulated C.S. pipes (30" to 48" NB).
ST05	XST05	Pipe stop for uninsulated ST.STL pipes.
ST06	XST06	Directional Anchor On Shoe for Hot Insulated Pipe NPS 1/236
ST07	XST07	Directional Stop for Base Support NPS 2 36
ST08	XST08	Temporary Directional Stop NPS 2 20
ST09A	XST09A	Stop on uninsulated pipe for diam 2" to 12"
ST09B	XST09B	Stop on uninsulated pipe for diam 2" to 12"
ST10A	XST10A	Double stop type A on uninsulated pipe for diam 2" to 12"
ST10B	XST10B	Double stop type B on uninsulated pipe for diam 2" to 12"
ST11A	XST11A	Double Stop on pipe shoes for diam 2" to 24"
ST11B	XST11B	Single Stop on pipe shoes for diam 2" to 24"
ST12	XST12	Limit Stop for diam 26" to 56"
ST13A	XST13A	Single stop type A on uninsulated pipe for diam 2" to 12"
ST13B	XST13B	Single stop type B on uninsulated pipe for diam 2" to 12"
ST14	XST14	Axial Stop Type A Restraint on Dummy legs for Diam 2" to 24"
ST15	XST15	Axial Guide Type B Restraint on Dummy legs for Diam 2" to 24"
ST16	XST16	Bilateral Guide Type C Restraint on Dummy legs for Diam 2" to 24"

ST20	XST20	Shoe stop
ST24A	XST24A	Pipe Stop I Section With Reinforcing Plate for uninsulated pipes for Diam 2.1/2" to 24".
ST24B	XST24B	Pipe Stop I Section With Reinforcing Plate and Adjustment for uninsulated pipes for Diam 2.1/2" to 24".
ST24C	XST24C	Pipe Stop I Section for uninsulated pipes for Diam 2.1/2" to 24".
ST24D	XST24D	Pipe Stop I Section With Adjustment for uninsulated pipes for Diam 2.1/2" to 24".
ST30	XST30	Axial stop clamped to pipe 2" TO 24"
ST31	XST31	Axial stop bolted to shear lug 2" TO 28"
ST32	XST32	Axial Stop Pipe on Clamped pipe shoe 2" TO 6"
ST33	XST33	Axial stop bolted with spacer to base plate 2" TO 24"

17 Slip units

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
SU01A1	XSU01	TICO bondslip unit type A size 1.
SU01A2	XSU01	TICO bondslip unit type A size 2.
SU01A3	XSU01	TICO bondslip unit type A size 3.
SU01A4	XSU01	TICO bondslip unit type A size 4.
SU01B1	XSU01	TICO bondslip unit type B size 1.
SU01B2	XSU01	TICO bondslip unit type B size 2.
SU01B3	XSU01	TICO bondslip unit type B size 3.
SU01B4	XSU01	TICO bondslip unit type B size 4.
SU01C1	XSU01	TICO bondslip unit type C size 1.
SU01C2	XSU01	TICO bondslip unit type C size 2.
SU01C3	XSU01	TICO bondslip unit type C size 3.
SU01C4	XSU01	TICO bondslip unit type C size 4.
SU02A1	XSU02	PTFE. slide unit type A size 1.
SU02A2	XSU02	PTFE. slide unit type A size 2.
SU02A3	XSU02	PTFE. slide unit type A size 3.
SU02A4	XSU02	PTFE. slide unit type A size 4.
SU02B1	XSU02	PTFE. slide unit type B size 1.
SU02B2	XSU02	PTFE. slide unit type B size 2.
SU02B3	XSU02	PTFE. slide unit type B size 3.
SU02B4	XSU02	PTFE. slide unit type B size 4.
SU02C1	XSU02	PTFE. slide unit type C size 1.
SU02C2	XSU02	PTFE. slide unit type C size 2.
SU02C3	XSU02	PTFE. slide unit type C size 3.

SU02C4	XSU02	PTFE. slide unit type C size 4.
SU03	XSU03	Shoe Supports, Teflon Slide Plate (Upper Element) NPS 3-36.
SU04	XSU04	Shoe Supports, Teflon Slide Plate NPS 2-36.

18 Trunnions

The following standards are available in this section of the MDS application.

The standards marked in shading are not available by default in the MDS application and are commented out of the DES-SUPP-DEFS default file. These standards are not recommended for use and have been replaced by other new standards. They may, however, be made available by uncommenting them in the above file if required.

MDS Standard Name	Replacement Name	Default Description
TT01	XTT01	Trunnions for straight piping.
TT02	XTT02	Trunnions for pipe elbows.
TT03	XTT03	Trunnions for CuNi straight piping.
TT04	XTT04	Base ELL and Pipe Support NPS 2-36
TT05	XTT05	Base ELL and Pipe Support NPS 2-36 with Bearing Plate
TT06	XTT06	Base ELL and Pipe Support Variable NPS 2-36
TT07	XTT07	Base ELL and Pipe Support Variable NPS 2-36 with Bearing Plate
TT08	XTT08	Base ELL and Pipe Support for RTJ Spools NPS 2-36
TT09	XTT09	Base ELL and Pipe Support for RTJ Spools NPS 2-36 with Bearing Plate
TT10	XTT10	Base Support for RTR Pipe NPS 2-14
TT11	XTT11	Base Support for RTR Pipe NPS 2-14 with Bearing Plate
TT12	XTT12	Base Support Bolt On NPS 2-36
TT13	XTT13	Base Support Bolt On with Bearing Plate NPS 2-36
TT14	XTT14	Type A Dummy Extension for Horizontal Pipe NPS 2-36
TT15	XTT15	Type B Dummy Extension for Horizontal Pipe NPS 2-36
TT16	XTT16	Type C Dummy Extension for Horizontal Pipe NPS 2-36
TT17	XTT17	Dummy Extension for Vertical Pipe NPS 2-36
TT18	XTT18	Base Support Adjustable Base NPS 2-24
TT19	XTT19	Base Support Adjustable Base with Bearing Plate NPS 2-8
TT20	XTT20	Support for Relief Valve Discharge Pipe NPS 2-12

TT21	XTT21	Rod Hanger Welded Elbow Trunnion NPS 12-24
TT22	XTT22	Base Support Anchor for RTR Pipe NPS 2-14
TT23	XTT23	Trunnion with an Integral Cold Isolation Block for C.S./Alloy Pipes NPS 1.1/2-20
TT24	XTT24	Trunnion Clamp for Vertical Pipe NPS 2-24
TT25	XTT25	90 Degree Cranked Vertical Dummy Leg for 2" 24"
TT26	XTT26	Vertical Dummy Leg for 2" 24"
TT27	XTT27	Trunnion With Integral Guide for 2" 24"
TT28	XTT28	Base Support Anchor for RTR Pipe NPS 2-14 with Bearing Plate
TT29	XTT29	GRE Pipes Vertical Dummy Leg for diam 2" 24"
TT30	XTT30	CPVC Pipes Vertical Dummy Leg for diam 2" 24"
TT31	XTT31	GRE Pipes Trunnion for 2" 24"
TT32	XTT32	CPVC Pipes Trunnion for 2" 24"
TT33	XTT33	GRE Pipes Stanchion for 2" 24"
TT34	XTT34	CPVC Pipes Stanchion for 2" 24"
TT35	XTT35	Vertical Dummy Leg for diam 2" 24"
TT36	XTT36	Trunnion NB 1 1/2" 30"
TT37	XTT37	Adjustable Trunnion NB 2" 12"
TT38	XTT38	Base Support Welded to pipe 2" TO 24"
TT39	XTT39	Base Support Welded to elbow 2" TO 24"

19 Vessel supports

The following standards are available in this section of the MDS application.

MDS Standard Name	Replacement Name	Default Description
VT01	XVT01	Support from vessel for 2" to 10" N.B. Pipe.
VT02	XVT02	Support from vessel for 12" to 20" N.B. Pipe.
VT03	XVT03	Guide from vessel for 8" to 20" N.B. Insulated Pipe.
VT04	XVT04	Guide from vessel for 8" to 24" N.B. Pipe.
VT05	XVT05	Support from vessel for 2" to 6" N.B. Pipe.
VT06	XVT06	Guide from vessel for 2" to 4" N.B. Pipe.
VT20	XVT20	Cantilever support from vertical & horizontal vessel for 2" to 10" N.B. Pipe.
VT21	XVT21	Braced cantilever support from vertical & horizontal vessel for 2" to 10" N.B. Pipe.
VT22	XVT22	Cantilever support from vertical vessel for vertical pipes with lugs LT13 or LT15 2.1/2" to 20" N.B. Pipe.
VT23	XVT23	Cantilever support from vertical vessel for vertical pipes with Trunnions 2.1/2" to 14" N.B. Pipe.
VT24	XVT24	Cantilever braced support from vertical vessel for vertical pipes with Trunnions 2.1/2" to 14" N.B. Pipe.

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