

HyDraw[®] CAD 2020

What's New

Power-to-Design Circuits



HyDraw® CAD 2020 What's New!

Display Unconnected Symbol Ports

Second B-Port Automatically Inserted on Slip-in Cartridge Symbol

Stacked Symbols Auto Grouped

Unstack Symbols - Auto Restack

Search using Enter Key

Improved Partial Search in HyDraw Library Explorer

Search by Model Family: Select Linked Model Code

View Linked Models of Symbol

Search Results Auto Update on Typing

Search Criteria included in HyDraw Options

Advanced Search Criteria: Select From Library

Turn Off Automatic Numbering

Drop Symbol over a Connection line to
Connect Unconnected Ports

Tracker line helps Align Symbols

Tracker line helps Align Symbol Ports

Use Non-ISO Color for all Symbols

Plug/Open Ports

New Ribbon Menu to Manage Symbols

Manage Components

Manage Ports

Manage Subsystems

New and Enhanced ISO Building Blocks

Add Display Format

Add Solenoid ID

Insert, Edit Symbol Ports

HyDraw Library Manager 2020

Search Model by Family/Part Number

Export Models to Excel

Open CAD files/Document

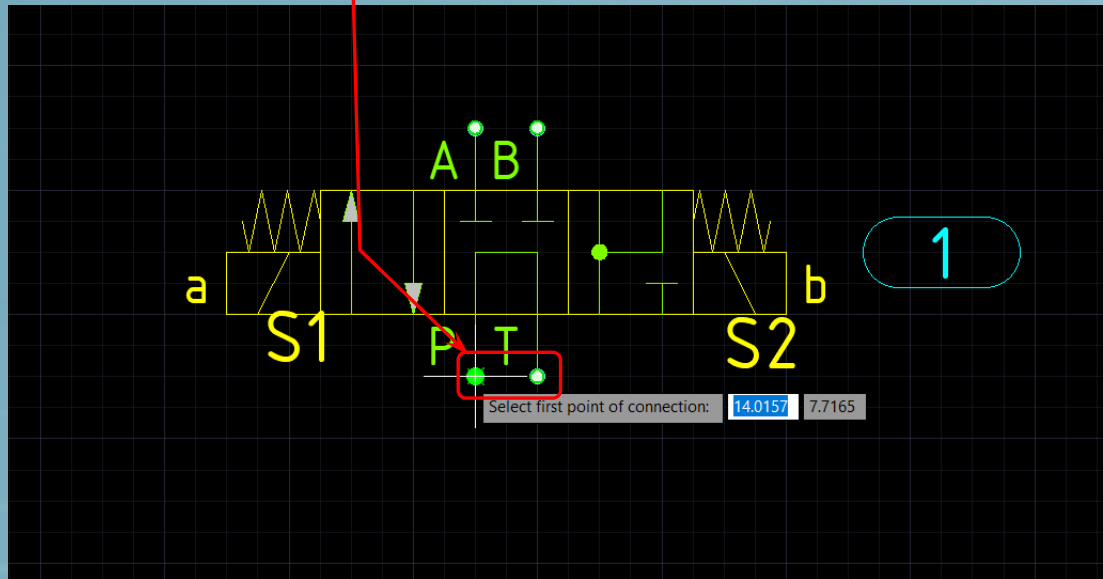
Sort by Date Created



Display Unconnected Symbol Ports

Smart snap points displayed at the unconnected ports*

* Connection Line command is activated



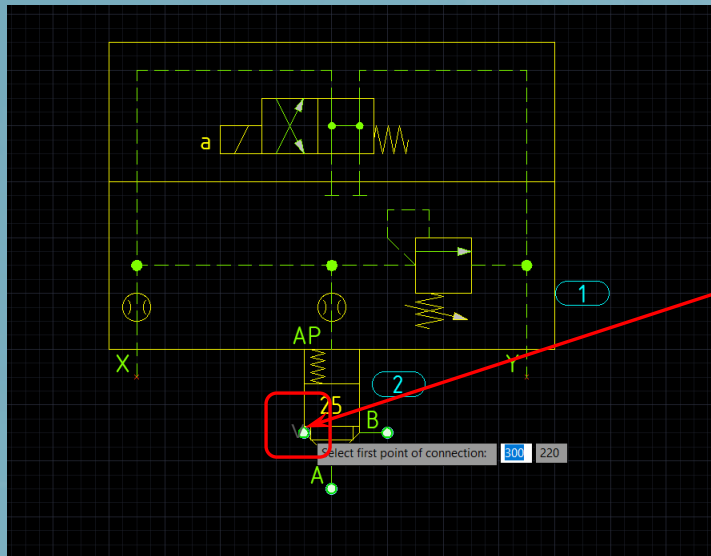
- Selected Connection Point
- Available Connection Point

Note:
If a symbol port has a terminator, the terminator is automatically removed when a connection is made

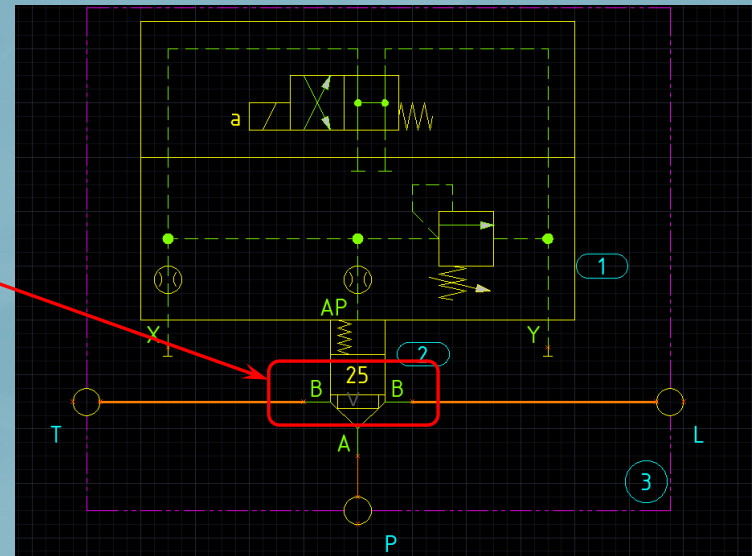


Second B-Port Auto Inserted on Slip-in Cartridge Symbol

Connections from both B-Ports are part of the same port and the same network



Symbol Component Type:
Slip-in Cartridge Insert



Second B-Port automatically inserted

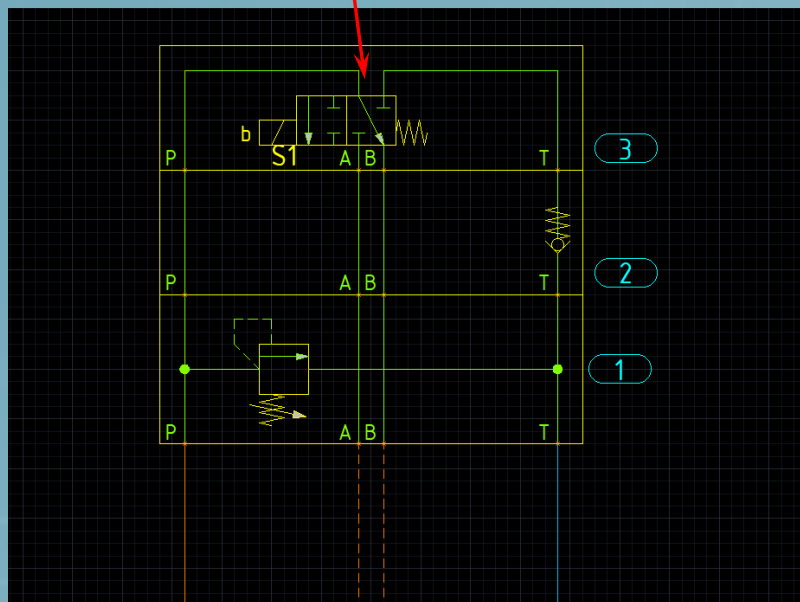
NET NAME	NET PRESSURE	STATUS
1&1-A, P		
P3		✓
T	2&1-B, T, L	✓

Buttons: Recreate, Export, Clear Error Flags, Insert, OK, Cancel

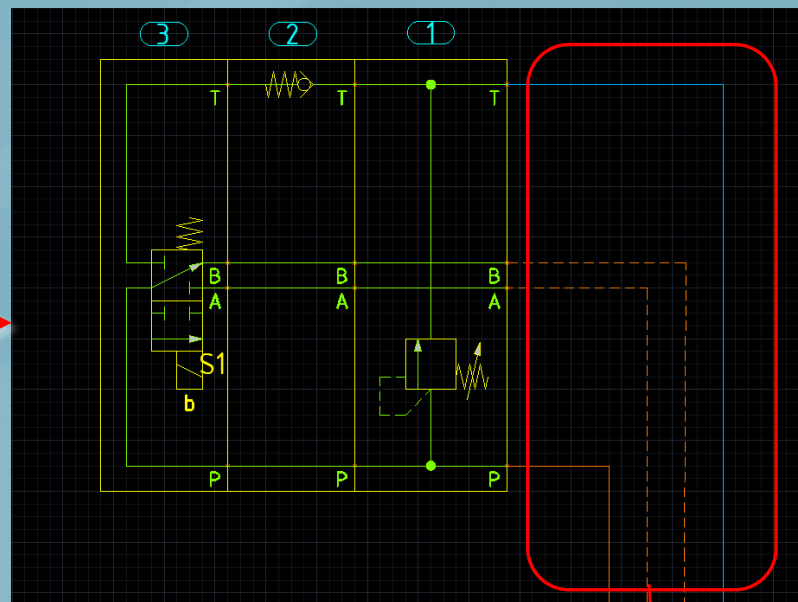


Stacked Symbols Auto Grouped

Move, rotate, and flip stacked symbols as a single entity



Stack Rotated Left

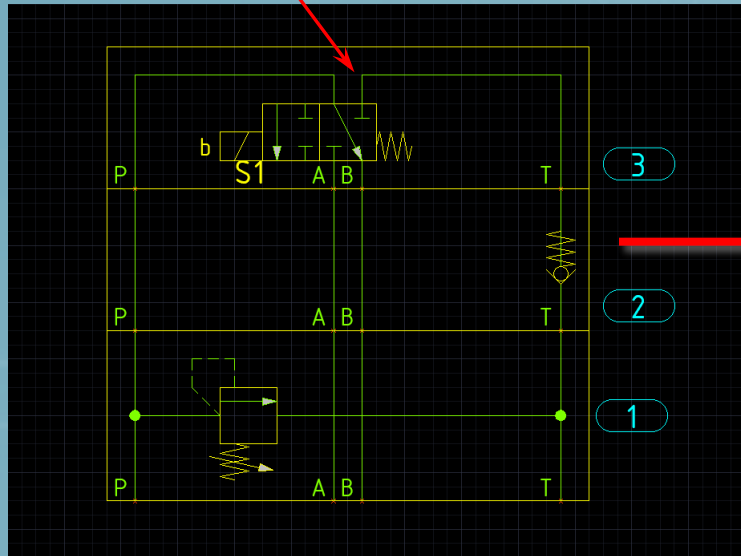
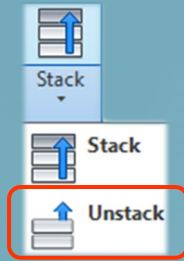


Connecting lines automatically reposition maintaining connectivity

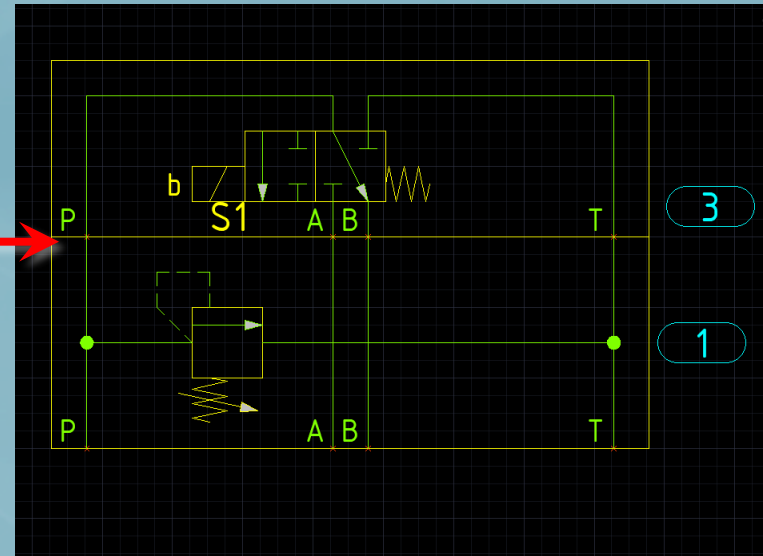


Unstack Symbols - Auto Restack

Unstack to individually manipulate stack symbols



Middle Symbol Removed

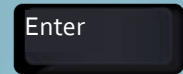
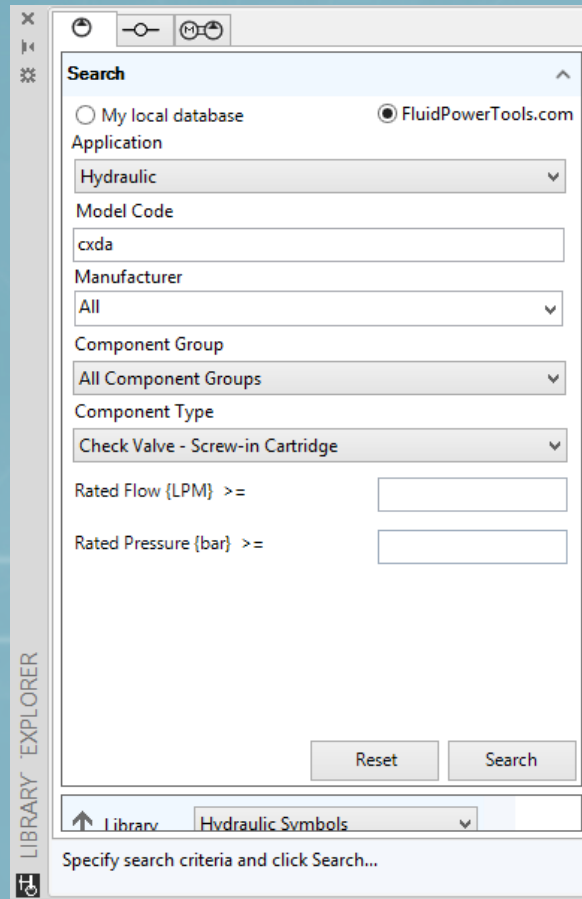


Stack automatically restacks
(regroups as a single entity)



Search using Enter Key

Press the ENTER key to get search results without clicking the Search button



Note: This is also included in HyDraw CAD 2019 Service Pack 2.2



Improved Partial Search in HyDraw Library Explorer

Use wildcard characters to search for a component

Component Type
Check Valve - Screw-in Cartridge

Cavity/Footprint/Interface ...

Rated Pressure {bar} ...

Search result

Available models

Model Code	Manufacturer	Description	Cavity/Footprint/Interface
CXDAXCN	Sun Hydraulics	Check Valve	T-13A
CXHDXCN	Sun Hydraulics	Check Valve	T-16A
CXHAXCN	Sun Hydraulics	Check Valve	T-16A



Search by Model Family: Select Linked Model Code

LIBRARYEXPLORER

Search result

Available models

Model Family	Manufacturer	Description
FDBA	Sun Hydraulics	Flow Control Valve with...

Symbols

Replace symbol

Double click or drag and drop symbol to insert.

Select Model Code

Linked Model Code

ModelCode	Manufacturer	Description	RatedFlow	Rated
FDBAC**	Sun Hydraulics	Flow Control Valve with Reverse Flow Check	6	
FDBA**	Sun Hydraulics	Flow Control Valve with Reverse Flow Check	6	

Insert Cancel

On drag and drop symbol into the drawing, selection from the Linked Model Code interface inserts symbol with Model Code data.



View Linked Models of Symbol

LIBRARYEXPLORER

Search result

Available models

Model Family	Manufacturer	Description
FDBA	Sun Hydraulics	Flow Control Valve with...

Symbols

Replace symbol

Show Linked Models

Double click or drag and drop symbol to insert.

Right-click symbol to display linked models

LIBRARYEXPLORER

Search result

Symbols

Replace symbol

Linked models

Model Code	Description	Manufacturer
FA101-**-*	Flow Control Valv...	Parker
FC101-**-*	Flow Control Valv...	Parker
FAR1-16**	Flow Control Valv...	Eaton
FAR1-12**	Flow Control Valv...	Eaton
FAR1-10**	Flow Control Valv...	Eaton
FR50-23-**-*	Flow Control Valv...	HydraForce
FR12-23-**-*	Flow Control Valv...	HydraForce
FR50-28-**-*	Flow Control Valv...	HydraForce
FDBA**	Flow Control Valv...	Sun Hydraulics
FDCB**	Flow Control Valv...	Sun Hydraulics
FDEA**	Flow Control Valv...	Sun Hydraulics
FDEA*A*	Flow Control Valv...	Sun Hydraulics

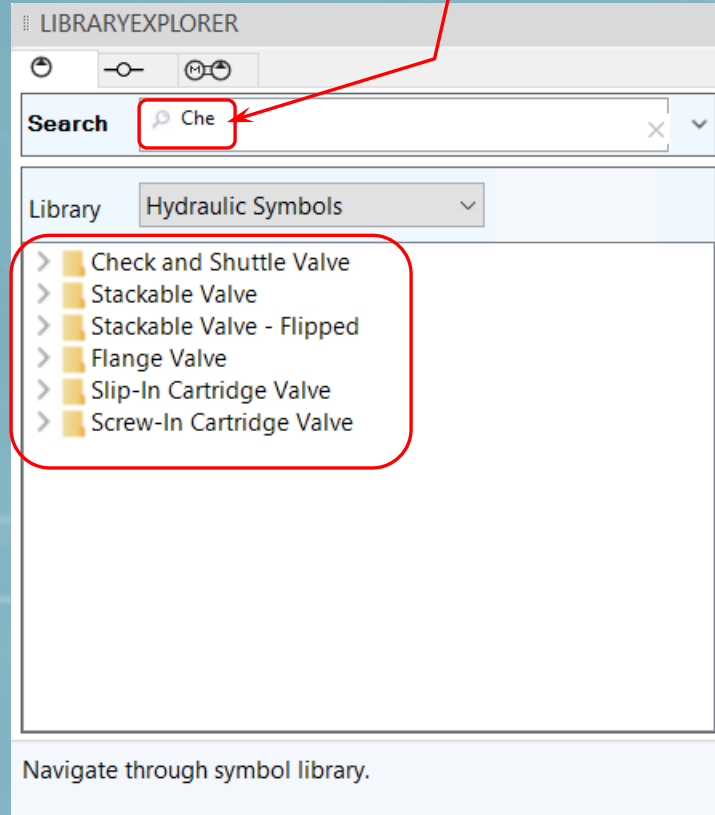
Double click or drag and drop symbol to insert.

All linked model codes of symbol displayed



Search Results Auto Update on Typing

Begin typing the name of the symbol you require, the Search results automatically update





Search Criteria included in HyDraw Options

'Select from Library' and 'Search from library' are populated based on the search criteria

The screenshot shows the 'HyDraw Options' dialog box with the 'Search Criteria' tab selected. The 'Search using' section has 'Model Code' selected. The 'Available Search Criteria' table is as follows:

Property Name	Operator	Tolerance (%)
Rated Flow	=	25
Rated Pressure	=	25
Type	=	
Voltage	=	
Displacement	>=	
Power Rating	>=	
Torque	>=	
Volume	>=	

Red boxes highlight the 'Search Criteria' tab, the 'Search using' section, and the 'Add' and 'Delete' icons on the right side of the table.

Add/Delete properties



Advanced Search Criteria: 'Select From Library'

Search criteria included automatically, per component type set in HyDraw options > Search Criteria

Select from Library

My local database FluidPowerTools.com

Search Criteria

Model Family: CV50-20

Model Code: []

Manufacturer: All

Rated Flow (gpm) = +/- 25%

Rated Pressure (psi) = +/- 25%

Type: Poppet

Models linked to symbol All models

Search Reset

HyDraw Options

Application Units Item ID Connection External Port Library Path Misc. Internet Settings Update From Excel

Gauge Port Lists & Charts Property Display Drawing Template Balloon Search Criteria MDTools Library

Search using Model Code Part Number

Available Search Criteria

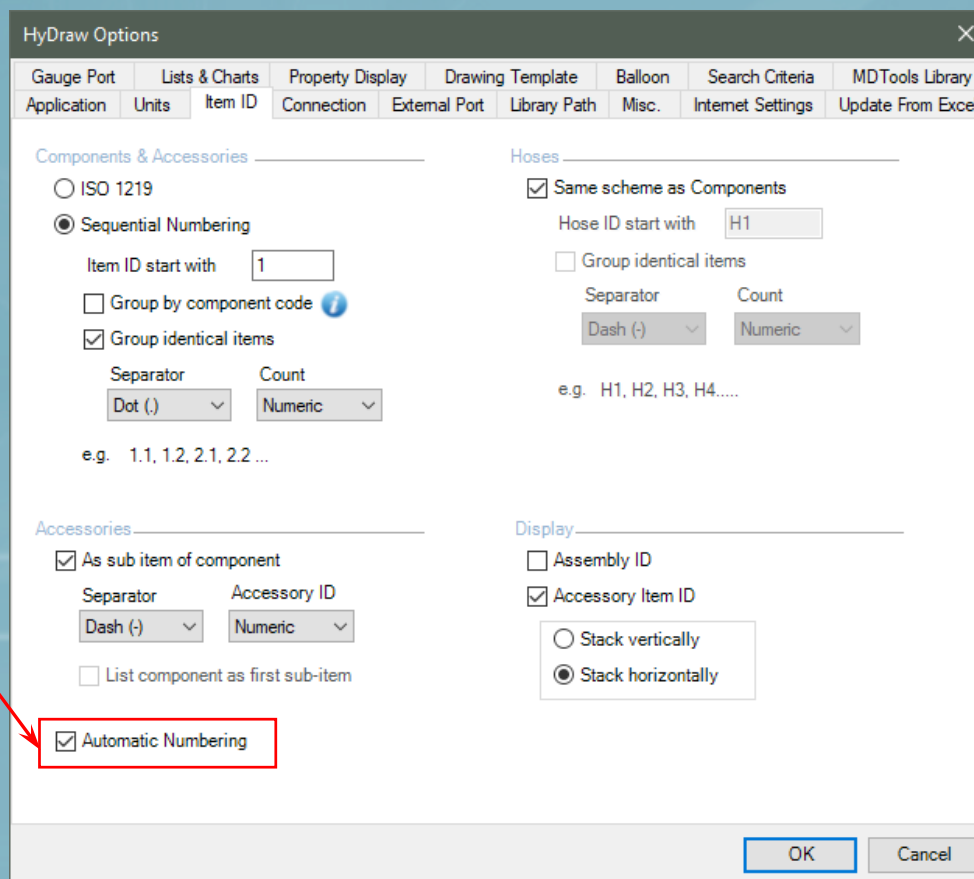
Property Name	Operator	Tolerance (%)
Rated Flow	=	25
Rated Pressure	=	25
Type	=	
Voltage	=	
Displacement	>=	
Power Rating	>=	
Torque	>=	
Volume	>=	

OK Cancel



Turn Off Automatic Numbering

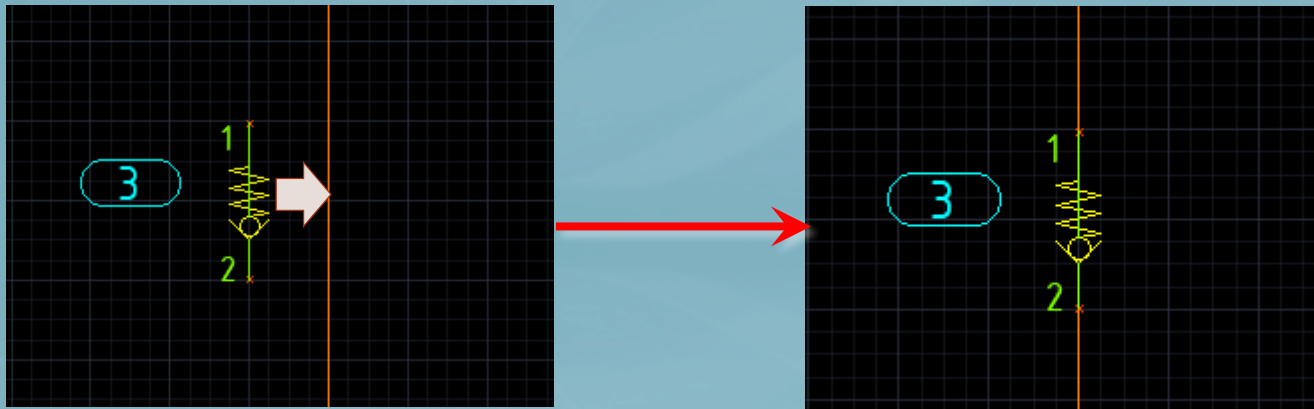
Option to turn off auto numbering of components and accessories





Drop Symbol over a Connection line to Connect Unconnected Ports

Move/Copy and paste, or drop a symbol over the connection line to split and connect the two unconnected ports of a symbol



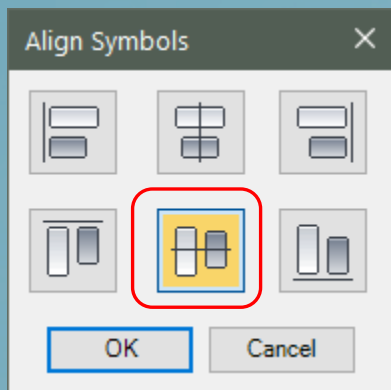
Note:

Symbol ports should be parallel and within 2 mm of the connection line.



Tracker line helps Align Symbols

Tracker line displays when alignment option is selected to align symbols

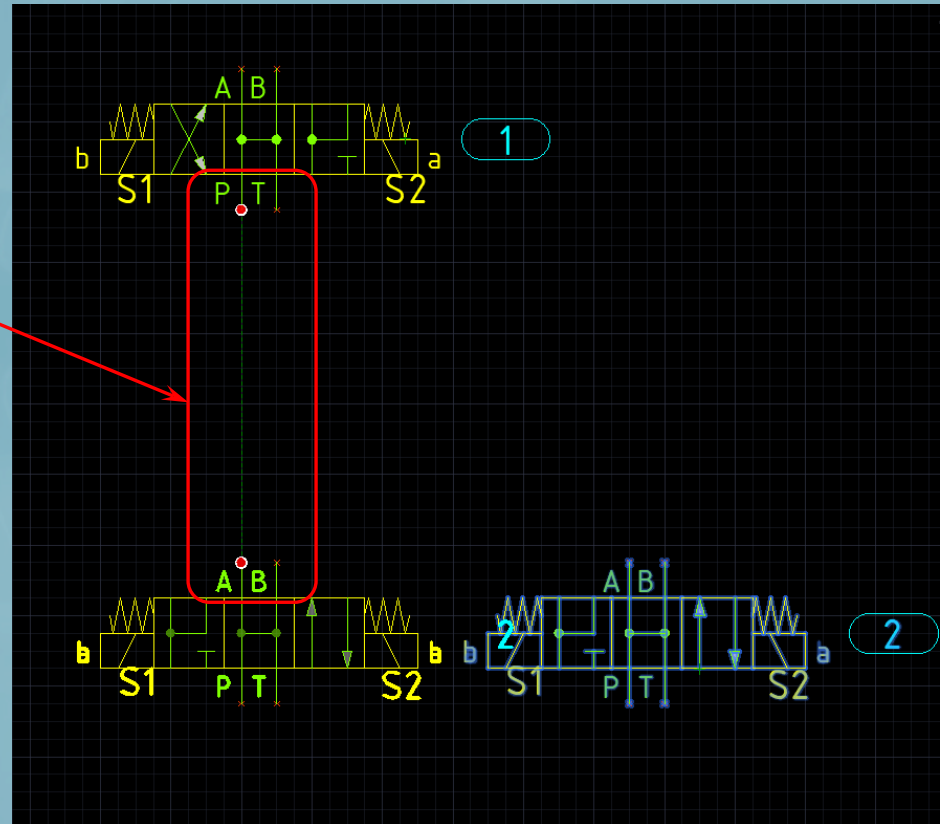
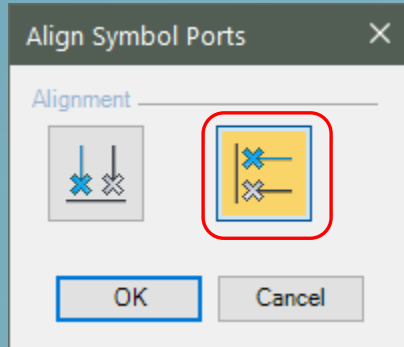


Symbols aligned along middle axis



Tracker line helps Align Symbol Ports

Tracker line displays when alignment option is selected to align symbol ports

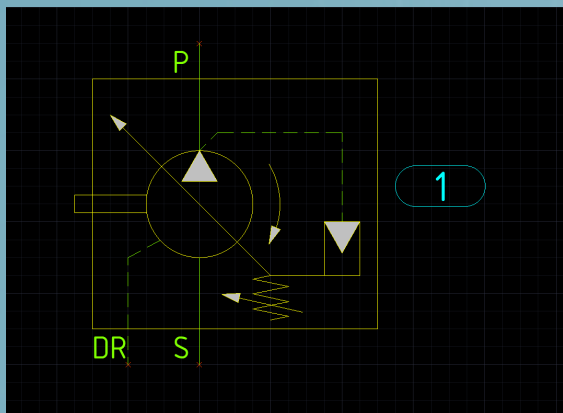


Symbol ports aligned vertically (Y- axis)

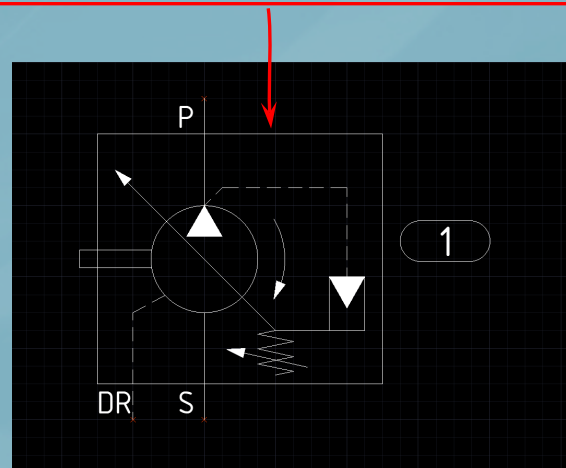


Use Non-ISO color for all symbols

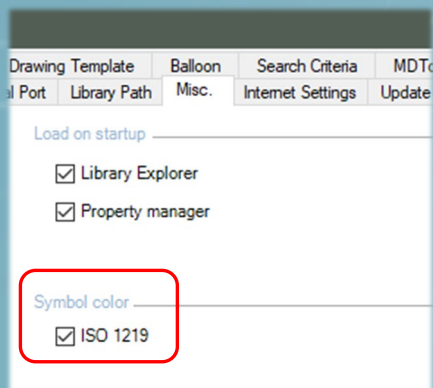
Option to use Non-ISO color for all symbols and associated elements



Symbol with ISO color



Symbol with Non-ISO color



Enable settings in HyDraw Options > Misc. > Symbol color



Plug/Open Ports

Option to plug/unplug port directly from the HyDraw Property Manager

HYDRAW PROPERTY MANAGER

Selected Item System

Symbol Plug Port

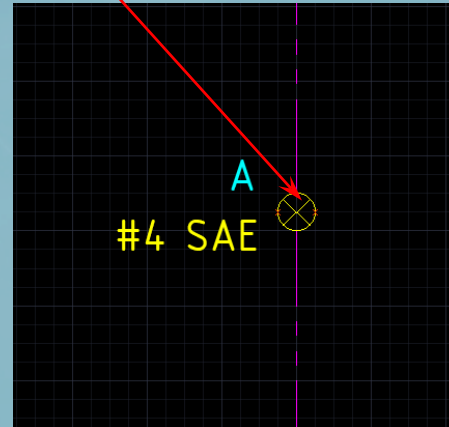
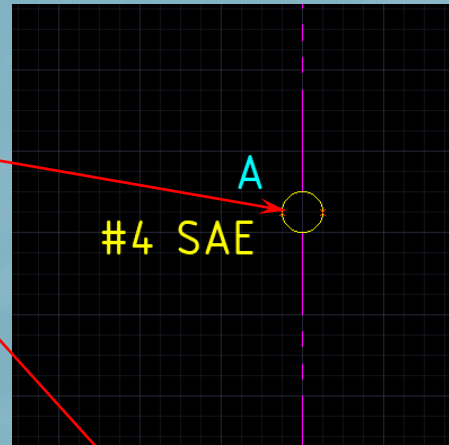
Port name	P1
Balloon Style	None
Display Setting	

Design requirements

Pressure {psi}	
Flow {gpm}	

Port data

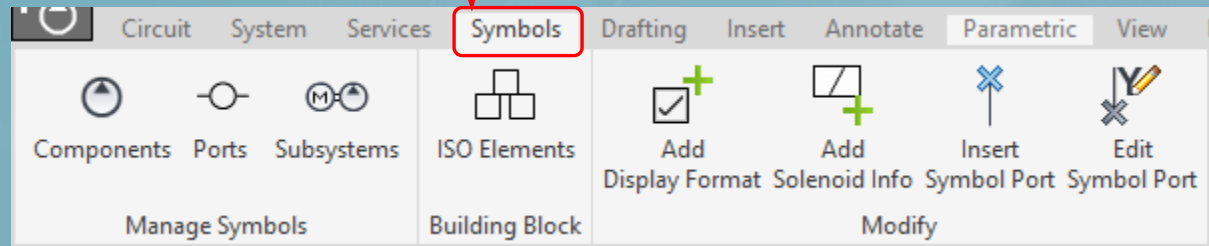
Port Type	SAE O-ring
Description	#2 SAE
Port Size	#2 SAE
Cavity Name	#2 SAE
Rated Pressure {psi}	6000
Pressure Line Max Flo	4
Return Line Max Flow	2
Mounting	Threaded





New Ribbon Menu to Manage Symbols

Add, delete and modify components, subsystems, custom external ports

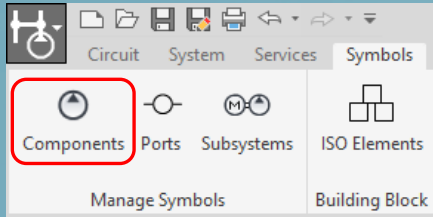


Manage symbol library

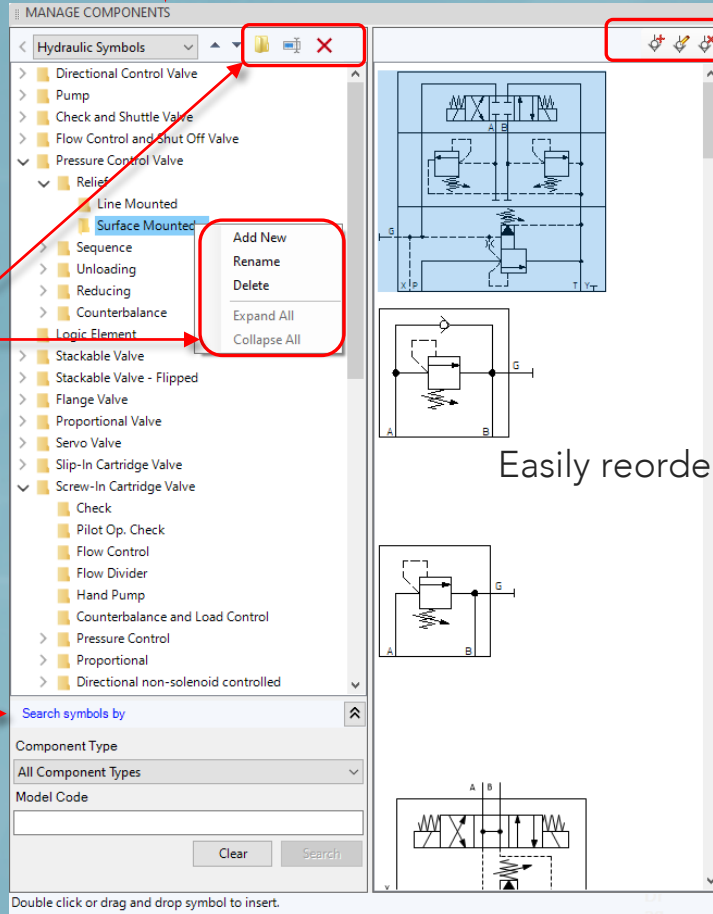


Manage Components

Enhanced and easy-to-use Manage Components functionality



Add new, rename or delete folders (also from context menu)



Search symbol by:
- Component Type
- Model Code

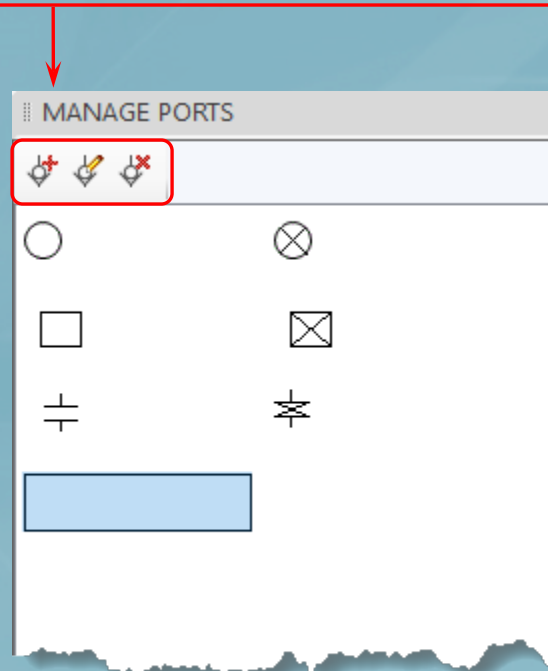
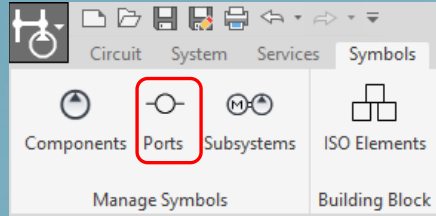
Add, delete and edit components/symbols

Easily reorder symbols within the folder



Manage Ports

Enhanced and easy-to-use Manage Ports functionality

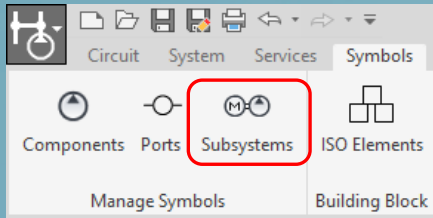


Add, delete and edit ports



Manage Subsystems

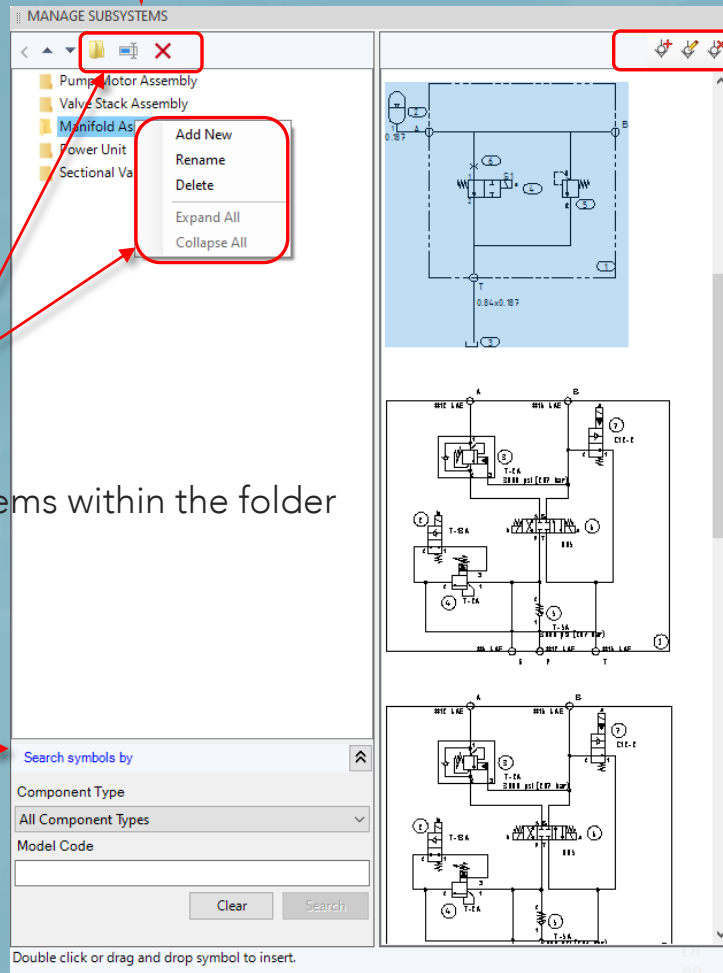
Enhanced and easy-to-use Manage Subsystems functionality



Add new, rename, delete folders
(also from context menu)

Easily reorder subsystems within the folder

Search symbol by:
- Component Type
- Model Code

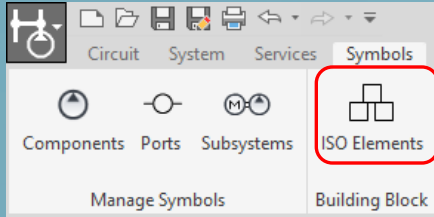


Add, delete and edit
subsystems



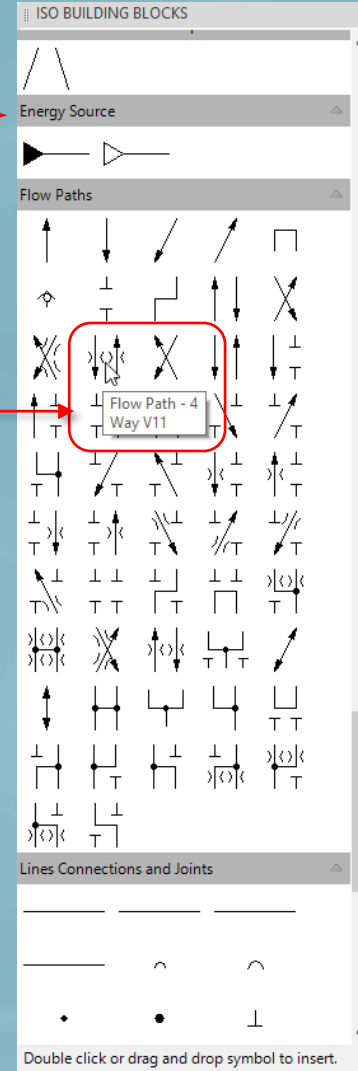
New and Enhanced ISO Building Blocks

Rotate, flip or scroll ISO-1219 building blocks



collapsible sections

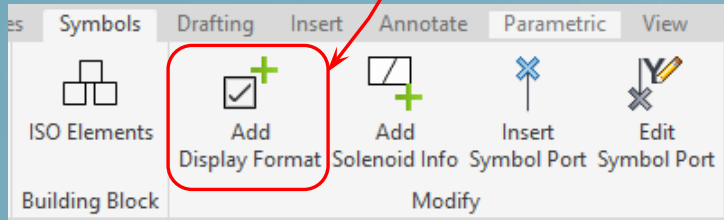
Identify symbols by descriptions on hover



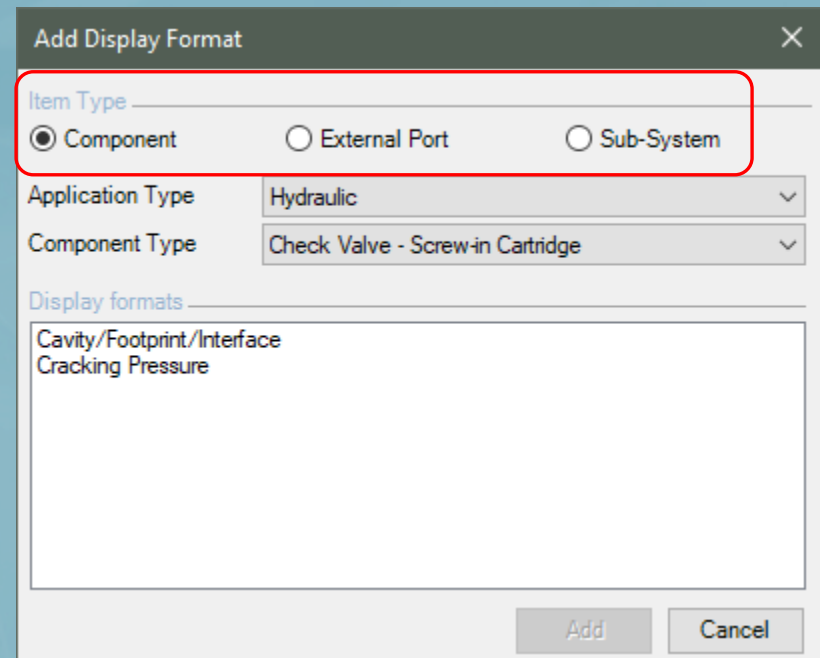


Add Display Format

Add a display format when creating or editing symbols



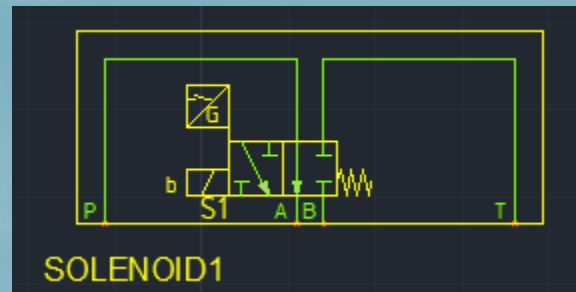
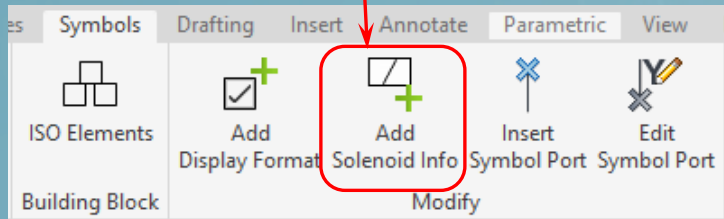
Display formats are displayed, per the component/external port/sub-system type





Add Solenoid ID

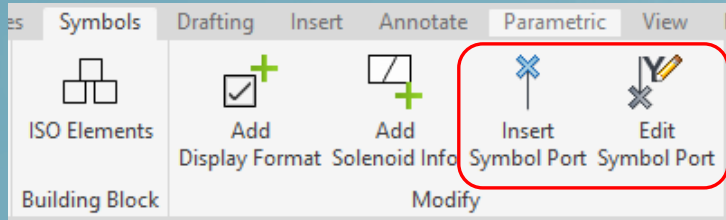
Add solenoid information when building or editing symbols



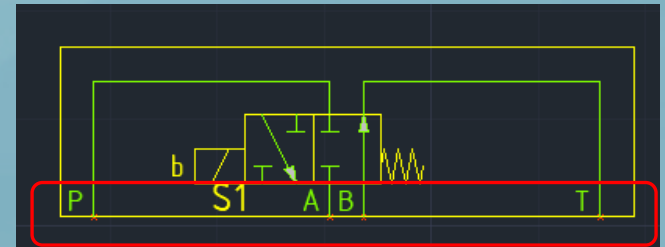
Copy an existing solenoid and create a new solenoid ID and function.



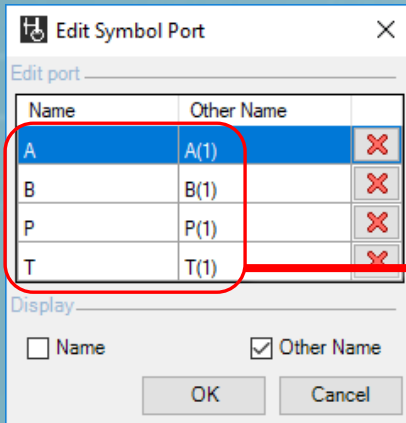
Insert, Edit Symbol Ports



Insert a symbol port when creating a new symbol



Edit the existing symbol port [E.g. Port A is changed to A(1)]





HyDraw Library Manager 2020



Search Model by Family/Part Number

HyDraw Library Manager 2020 - [Components: Symbols]

Components Accessories External Ports Connections Sub-Systems

Symbol View **Model Data View** Documents CAD Files Model Properties Design Properties Display Formats Component Types Manage List

Search by

Application: Hydraulic
Component type: All Component Types
Manufacturer: All Manufacturers
Model Code:
Model Family:
Part Number:

Model Code	Model Family	Description	Manufacturer
4DPE01-3E02Q10-0...	4DPE	Proportional Directio...	Parker
4WE10C3X/CG24K4	WE10	Direction Control Valve	Bosch Rexroth
4WE6E16X/EG24N...	WE6	Direction Control Valve	Bosch Rexroth
4WE6E6X/EG24N9...	WE6	Direction Control Valve	Bosch Rexroth
4WE6G6X/EG24N9...	WE6	Direction Control Valve	Bosch Rexroth
4WE6H6X/EG24N9...	WE6	Direction Control Valve	Bosch Rexroth
4WE6J6X/EG24N9...	WE6	Direction Control Valve	Bosch Rexroth
4WE6RA6X/EG24N...	WE6	Direction Control Valve	Bosch Rexroth
4WRAB6E12-1X/G1...	4WRAB	Proportional Directio...	Bosch Rexroth
4WRTE10V25L-4X/...	4WRTE	Proportional Directio...	Bosch Rexroth
4WRTE25V25L-4X/...	4WRTE	Proportional Directio...	Bosch Rexroth
4WRZ10W6-50-7X/...	4WRZ	Proportional Directio...	Bosch Rexroth
4WRZE25E-100-7X...	4WRZE	Proportional Directio...	Bosch Rexroth
5-4WE10C3X/OFCK	5-WE10	Direction Control Valve	Bosch Rexroth
5-4WE10HA3X/C4K	5-WE10	Direction Control Valve	Bosch Rexroth
A02B2-FZ-N	A02B2	Direct Acting Pressur...	Parker
A4D0131110101C1	A4D013	Direction Control Valve	Parker
A4D0132010302C1	A4D013	Direction Control Valve	Parker
A4D0132030302C1	A4D013	Direction Control Valve	Parker
A4D0137510902C1	A4D013	Direction Control Valve	Parker
A4D02V3B01-01031...	A4D02V3	Direction Control Valve	Parker
A4D02V3B07-03031...	A4D02V3	Direction Control Valve	Parker
A4D02V3B08-03031...	A4D02V3	Direction Control Valve	Parker

Selected Model properties

Application: Hydraulic
Component type: Direction Control Valve - Sol.

Model Data

Model Code	4WE6E16X/EG24N9K4/A12
Model Family	WE6
Part Number	
Description	Direction Control Valve
Manufacturer	Bosch Rexroth
Cost	
Assembly Cost	
List Price	
Rated Flow (gpm)	21
Pressure Loss @ Rated	
Rated Pressure (psi)	5000
Cavity/Footprint/Interfac	D03
Malfuction Flow (gpm)	
Voltage	
Frequency	

Symbols linked to selected model



Export Models to Excel

Export model data, including accessories, linked CAD files, documents and linked symbols

The screenshot shows the HyDraw Library Manager 2020 interface. The 'Model Data View' tab is active, displaying a table of available models. The 'Export' button is highlighted with a red box and a red arrow pointing to it. The table lists various hydraulic components with columns for Model Code, Model Family, Description, and Manufacturer. The 'Selected Model properties' panel on the right shows details for the selected model (4WE6E16X/EG24N9K4/A12), including its description as a Direction Control Valve and its manufacturer as Bosch Rexroth. The 'Symbols linked to selected model' panel at the bottom right displays a schematic diagram of the valve.

Model Code	Model Family	Description	Manufacturer
4DPE01-3E02Q10-0...	4DPE	Proportional Directio...	Parker
4WE10C3X/CG24K4	WE10	Direction Control Valve	Bosch Rexroth
4WE6E16X/EG24N...	WE6	Direction Control Valve	Bosch Rexroth
4WE6E6X/EG24N9...	WE6	Direction Control Valve	Bosch Rexroth
4WE6G6X/EG24N9...	WE6	Direction Control Valve	Bosch Rexroth
4WE6H6X/EG24N9...	WE6	Direction Control Valve	Bosch Rexroth
4WE6J6X/EG24N9...	WE6	Direction Control Valve	Bosch Rexroth
4WE6RA6X/EG24N...	WE6	Direction Control Valve	Bosch Rexroth
4WRAB6E12-1X/G1...	4WRAB	Proportional Directio...	Bosch Rexroth
4WRTE10V25L-4X/...	4WRTE	Proportional Directio...	Bosch Rexroth
4WRTE25V25L-4X/...	4WRTE	Proportional Directio...	Bosch Rexroth
4WRZ10W6-50-7X/...	4WRZ	Proportional Directio...	Bosch Rexroth
4WRZE25E-100-7X...	4WRZE	Proportional Directio...	Bosch Rexroth
5-4WE10C3X/OFCK	5-WE10	Direction Control Valve	Bosch Rexroth
5-4WE10HA3X/C4K	5-WE10	Direction Control Valve	Bosch Rexroth
A02B2-FZ-N	A02B2	Direct Acting Pressur...	Parker
A4D0131110101C1	A4D013	Direction Control Valve	Parker
A4D0132010302C1	A4D013	Direction Control Valve	Parker
A4D0132030302C1	A4D013	Direction Control Valve	Parker
A4D0137510902C1	A4D013	Direction Control Valve	Parker
A4D02V3B01-01031...	A4D02V3	Direction Control Valve	Parker
A4D02V3B07-03031...	A4D02V3	Direction Control Valve	Parker
A4D02V3B08-03031...	A4D02V3	Direction Control Valve	Parker





Open CAD files/Document

HyDraw Library Manager 2020 - [Documents]

Components Accessories External Ports Connections Sub-Systems

Documents

Search by

Category: All Categories

File Name:

Available Documents

File Name	Category	Root Folder	Subfolder	
NVH101.pdf	Data Sheet	https://secure.fluidpo...	Parker\HY 15-65...	
FC101.pdf	Data Sheet	https://secure.fluidpo...	Parker\HY 15-65...	
J04D3.pdf	Data Sheet	https://secure.fluidpo...	Parker\HY 15-65...	
FDC101.pdf	Data Sheet	https://secure.fluidpo...	Parker\HY 15-65...	...
R06E3.pdf	Data Sheet	https://secure.fluidpo...	Parker\HY 15-65...	
AP04G2YP.pdf	Data Sheet	https://secure.fluidpo...	Parker\HY 15-65...	
A02B2.pdf	Data Sheet	https://secure.fluidpo...	Parker\HY 15-65...	
SV4-10-C.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
SV4-10-3.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
PFR2-10.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
NV1-10.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
FDC1-10.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
FAR1-12.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
FAR1-10.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
ERV2-10.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
ERV1-10.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
DPS2-20.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
CV3-10.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
GS0452D.pdf	Data Sheet	https://secure.fluidpo...	Parker\HY 15-65...	
GS0257.pdf	Data Sheet	https://secure.fluidpo...	Parker\HY 15-65...	
SV9-10-A.pdf	Data Sheet	https://secure.fluidpo...	Eaton\V-VLOV-M...	
OD.21.01.pdf	Data Sheet	https://secure.fluidpo...	Rexroth\Bosch R...	
04.05.04.pdf	Data Sheet	https://secure.fluidpo...	Rexroth\Bosch R...	

Selected Document properties

Root Folder: https://secure.fluidpowertools.com/HyDrawOnline/Dowr

File Name: Browse ...

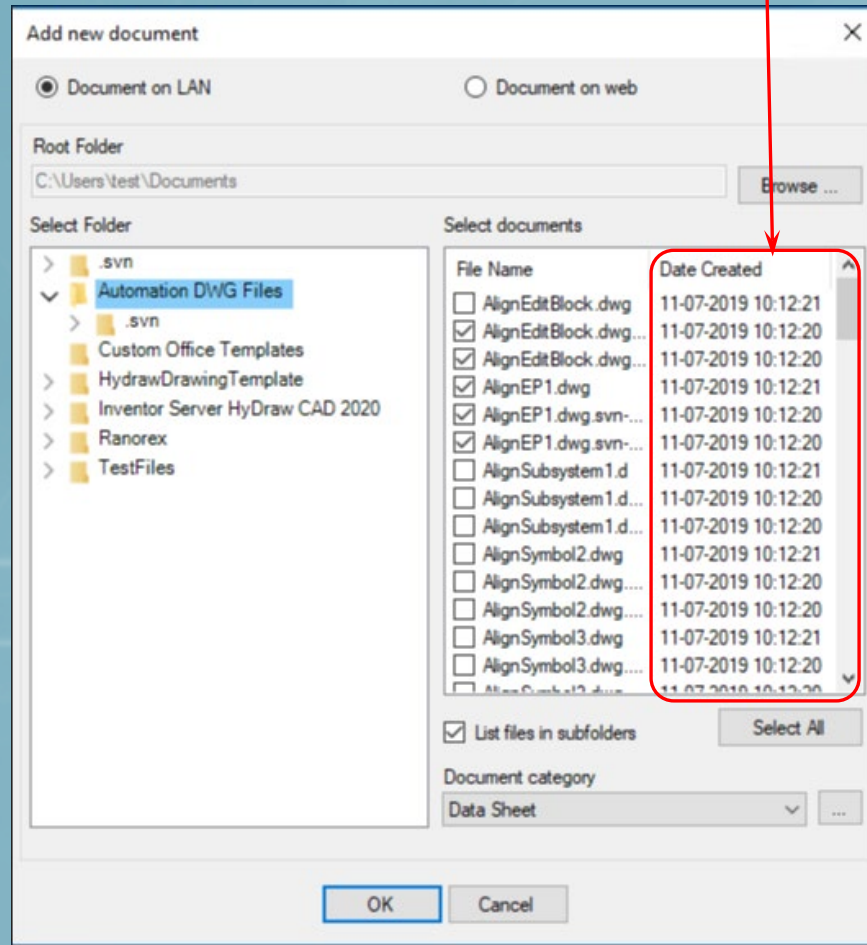
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