
USING THE PROGRAM



USING THE PROGRAM: STAGE 1 – PROJECT ; UNITS

Project Details:

- Project details for customer report and follow up

Units:

- Select from dropdown menus – metric or US unit sets, or customize

The screenshot shows the main interface of the BERMA SIZING software. At the top, there is a menu bar with icons for 'Project and Units', 'Sizing Calculation', 'Report Generator', 'About', and 'Help'. Below the menu bar, a warning message states: 'BERMAD SIZING software is constrained solely to Bermad valve characteristics. Applying it with another brand valve might lead to severe misuse!'. The main workspace is divided into two sections: 'Project Details' and 'Units'. The 'Project Details' section contains a table with the following data:




Project Details	
Project	Seminar
Customer	Everyone
Sized By	Micha
Date	29/03/2022
Country	
Tag	
Remarks	WELCOME TO BERMAD SIZING

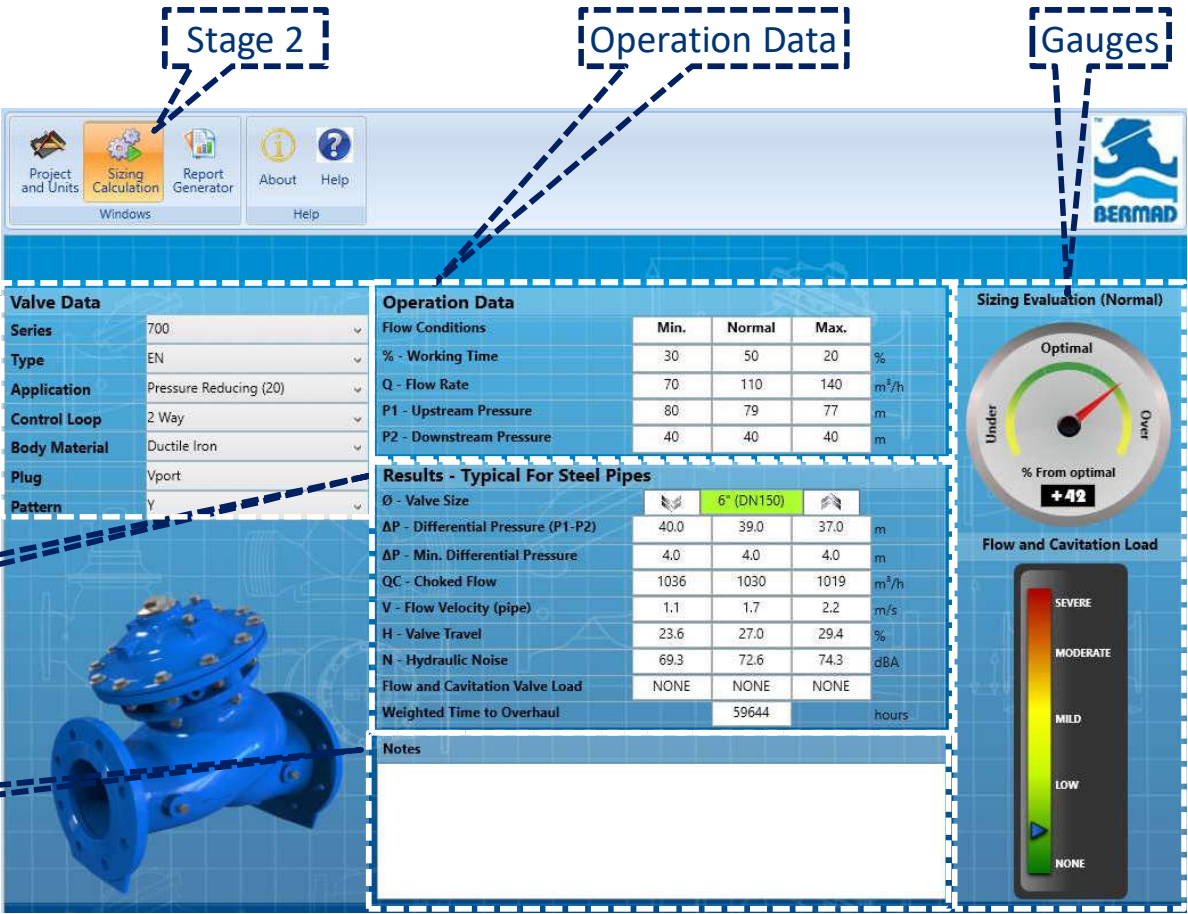
The 'Units' section contains a table with the following data:

Units	
Units Type	Metric SI
Pressure	meter [m]
Flow	Cubic meter/hour [m ³ /h]
Flow Velocity	meter/second [m/s]
Valve Travel	percent [%]

Callouts in the image point to the 'Project and Units' menu icon (labeled 'Stage 1'), the 'Project Details' section, and the 'Units' section.

USING THE PROGRAM: STAGE 2 – DATA ; RESULTS

-  Valve Data
-  Operation Data
-  Results
Including Notes and Gauges



Stage 2

Operation Data

Gauges

Valve Data

Results

Notes

Valve Data	
Series	700
Type	EN
Application	Pressure Reducing (20)
Control Loop	2 Way
Body Material	Ductile Iron
Plug	Vport
Pattern	Y

Operation Data		Min.	Normal	Max.	
Flow Conditions					
% - Working Time		30	50	20	%
Q - Flow Rate		70	110	140	m ³ /h
P1 - Upstream Pressure		80	79	77	m
P2 - Downstream Pressure		40	40	40	m

Results - Typical For Steel Pipes		Min.	Normal	Max.	
Ø - Valve Size	6" (DN150)				
ΔP - Differential Pressure (P1-P2)		40.0	39.0	37.0	m
ΔP - Min. Differential Pressure		4.0	4.0	4.0	m
QC - Choked Flow		1036	1030	1019	m ³ /h
V - Flow Velocity (pipe)		1.1	1.7	2.2	m/s
H - Valve Travel		23.6	27.0	29.4	%
N - Hydraulic Noise		69.3	72.6	74.3	dBA
Flow and Cavitation Valve Load		NONE	NONE	NONE	
Weighted Time to Overhaul			59644		hours

Sizing Evaluation (Normal)

Optimal

Under Over

% From optimal

+42

Flow and Cavitation Load

SEVERE

MODERATE

MILD

LOW

NONE



USING THE PROGRAM: STAGE 2 – VALVE DATA

- 🧠 **Series:** 100, 400, 700, etc.
- 🧠 **Type:** 00, ES, PA, etc.
- 🧠 **Application:** Four types/modules
 - 💧 **Modulating valves** (reducing, sustaining, flow control, electric control, level)
 - 💧 **On-Off valves** (pump, solenoid, Bi-Level, burst , deluge)
 - 💧 **Relief valves** (relief, anticipating)
 - 💧 **Proportional**
- 🧠 **Control Loop:** 2-way or 3-way
- 🧠 **Body Material:** Ductile Iron, NAB, etc.
- 🧠 **Plug:** Flat, V-port, Single Cage, Double Cage
- 🧠 **Pattern:** Angle, Y, Globe

Valve Data	
Series	700
Type	EN
Application	Pressure Reducing (20)
Control Loop	2 Way
Body Material	Ductile Iron
Plug	Vport
Pattern	Y

Note: Options of each field depend on previous selections

USING THE PROGRAM: STAGE 2 – OPERATION DATA

- 👤 **Flow Conditions:** Enter data for one, two or all three sets of operating conditions
- 👤 **Working Time:**
 - 💧 Must total 100%
 - 💧 “Normal” Working Time must be at least 50%
- 👤 **Flow Rate**
- 👤 **Upstream Pressure:** Not higher than series rating
- 👤 **Downstream Pressure:** Not higher than upstream pressure

Operation Data				
Flow Conditions	Min.	Normal	Max.	
% - Working Time	30	50	20	%
Q - Flow Rate	70	110	140	m ³ /h
P1 - Upstream Pressure	80	79	77	m
P2 - Downstream Pressure	40	40	40	m

USING THE PROGRAM: STAGE 2 – RESULTS

 **Valve Size:**



- ◆ Is an initial result of calculations, it is NOT final recommendation
- ◆ Change Valve Size by Up / Down arrows, to check affect on ALL parameters
Alternatively – change Valve Data (type, plug, material, etc.)

 **Min. Differential Pressure:**

- ◆ 3-way Control Loop → by KV/CV formula
- ◆ 2-way Control Loop → ≥ 0.4 bar (6 psi)

 **Valve Travel:** Percentage of a fully open valve, or distance from the closed position

 **Weighted Time to Overhaul (1):** Recommended hours to open and inspect the valve

Results - Typical For Steel Pipes				
Ø - Valve Size		6" (DN150)		
ΔP - Differential Pressure (P1-P2)	40.0	39.0	37.0	m
ΔP - Min. Differential Pressure	4.0	4.0	4.0	m
QC - Choked Flow	1036	1030	1019	m ³ /h
V - Flow Velocity (pipe)	1.1	1.7	2.2	m/s
H - Valve Travel	23.6	27.0	29.4	%
N - Hydraulic Noise	69.3	72.6	74.3	dBA
Flow and Cavitation Valve Load	NONE	NONE	NONE	
Weighted Time to Overhaul		59644		hours

(1) Calculation refers to:
Series, plug, material,
thickness, flow velocity,
cavitation and experience



USING THE PROGRAM: STAGE 2 – NOTES + GAUGES

Notes:

- 💧 Pay careful attention to the various notes, remarks and warnings
- 💧 These help with proper valve selection, so change data (valve and/or operation), if needed

Notes

Recommended flow velocity exceeded
P1-P2 (input) lower than Min ΔP (calculated)
Flow should be less than Choked Flow

Gauges: Graphical indication for some of the results



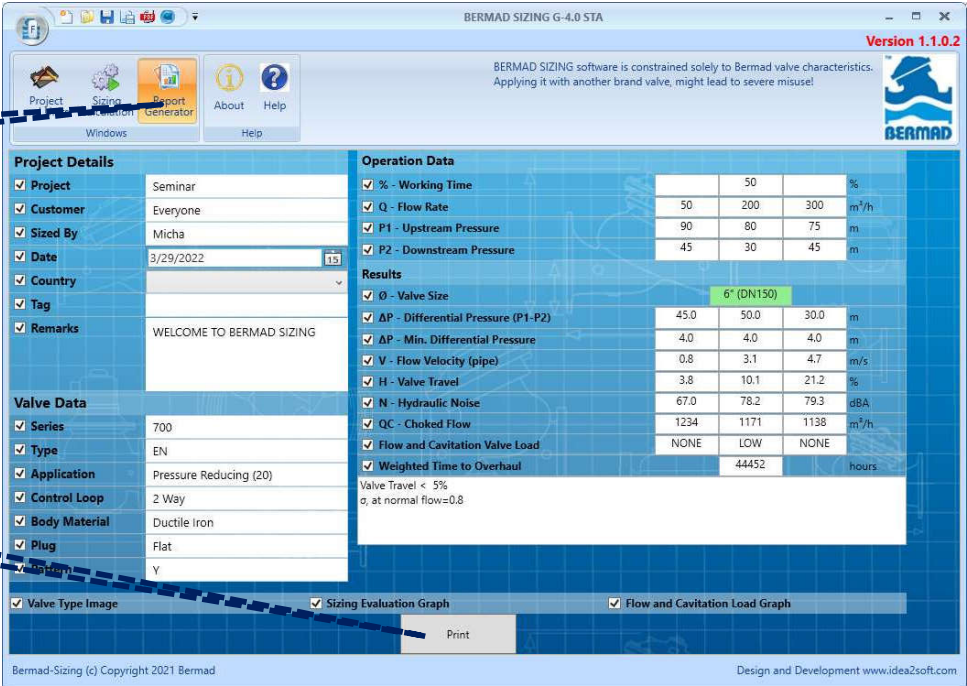
USING THE PROGRAM: STAGE 3 – REPORT

 Editing: According to authorization level

 Print: Create PDF file

Stage 3

Print



BERMA SIZING G-4.0 STA

Version 1.1.0.2

BERMA SIZING software is constrained solely to Bermad valve characteristics. Applying it with another brand valve, might lead to severe misuse!

Project Details

- Project: Seminar
- Customer: Everyone
- Sized By: Micha
- Date: 3/29/2022
- Country: [Dropdown]
- Tag: [Text]
- Remarks: WELCOME TO BERMA SIZING

Valve Data

- Series: 700
- Type: EN
- Application: Pressure Reducing (20)
- Control Loop: 2 Way
- Body Material: Ductile Iron
- Plug: Flat
- Y: Y

Operation Data

- % - Working Time: 50 %
- Q - Flow Rate: 50 200 300 m³/h
- P1 - Upstream Pressure: 90 80 75 m
- P2 - Downstream Pressure: 45 30 45 m

Results

- Ø - Valve Size: 6" (DN150)
- ΔP - Differential Pressure (P1-P2): 45.0 50.0 30.0 m
- ΔP - Min. Differential Pressure: 4.0 4.0 4.0 m
- V - Flow Velocity (pipe): 0.8 3.1 4.7 m/s
- H - Valve Travel: 3.8 10.1 21.2 %
- N - Hydraulic Noise: 67.0 78.2 79.3 dBA
- QC - Choked Flow: 1234 1171 1138 m³/h
- Flow and Cavitation Valve Load: NONE LOW NONE
- Weighted Time to Overhaul: 44452 hours

Valve Travel < 5%
σ, at normal flow=0.8

Valve Type Image Sizing Evaluation Graph Flow and Cavitation Load Graph

Print

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USING THE PROGRAM: STAGE 3 – REPORT

 Example:

BERMAD Sizing Report

Bermad CS Ltd. | info@bermad.com | www.bermad.com




Project Details		Valve Data	
Project:	Seminar	Series:	700
Customer:	Everyone	Type:	EN
Sized By:	Mcha	Application:	Pressure Reducing (20)
Date:	3/29/2022	Control Loop:	2 Way
Country:		Body Material:	Ductile Iron
Tag:		Plug:	Flat
Remarks:	WELCOME TO BERMAD SIZING	Pattern:	Y

Operation Data	Min. Flow	Normal Flow	Max. Flow	Units
% - Working Time:		50		%
Q - Flow Rate:	50	200	300	m ³ /h
P1 - Upstream Pressure:	90	80	75	m
P2 - Downstream Pressure:	45	30	45	m

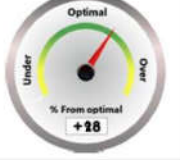
Results	Min. Flow	Normal Flow	Max. Flow	Units
Ø - Valve Size:	6" (DN150)			
ΔP - Differential Pressure (P1-P2):	45.0	50.0	30.0	m
ΔP - Min. Differential Pressure:	4.0	4.0	4.0	m
V - Flow Velocity (pipe):	0.8	3.1	4.7	m/s
QC - Choked Flow:	1234	1171	1138	m ³ /h
H - Valve Travel:	3.8	10.1	21.2	%
N - Hydraulic Noise:	67.0	78.2	79.3	dB(A)
Flow and Cavitation Valve Load:	NONE	LOW	NONE	
Weighted Time to Overhaul:		44452		hours

Notes: Valve Travel < 5%
o. at normal flow 0.8

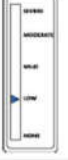
Valve Type



Sizing Evaluation (Normal)




Flow and Cavitation Load



Attention:
BERMAD SIZING software is constrained solely to Bermad valve characteristics.
Applying it with another brand valve, might lead to severe misuse!

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USING THE PROGRAM: QUICK ACCESS TOOLBAR

Send Project

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Save As

Save

Open Bermad Sizing File

Clear Fields





THANK YOU!

BERMAD Water Control Solutions

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