



# WELCOME to CAUx Local India 2018



## Sign Conventions For WRC, PV Elite and NozzlePro

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# WRC, PV Elite, NozzlePro Sign Conventions

## Why WRC or FEA required for External nozzle loads?

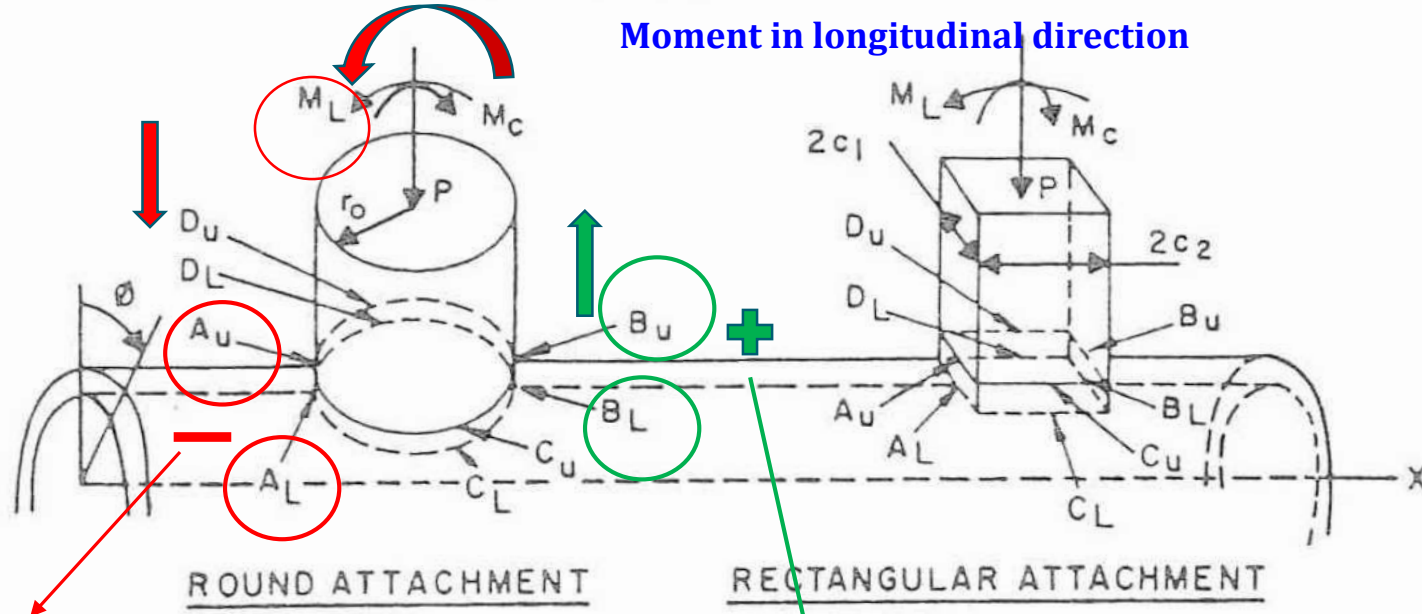
- ASME Sec VIII Div.1 gives formulae and guidelines for nozzle reinforcement calculations but not gives any method or formulas for local load analysis and hence refers to U-2(g)

*(i)* The reinforcement rules in this Division are applicable for internal or external pressure and do not address the requirements for openings under the action of externally applied loadings (such as pipe reactions). When externally applied loadings are to be considered, see U-2(g).

*U-2(g)* This Division of Section VIII does not contain rules to cover all details of design and construction. Where complete details are not given, it is intended that the Manufacturer, subject to the acceptance of the Inspector, shall provide details of design and construction which will be as safe as those provided by the rules of this Division.

# WRC 107 Sign Conventions

Table 4—Sign Convention for Stresses Resulting from Radial and Moment Loading on a Cylindrical Shell

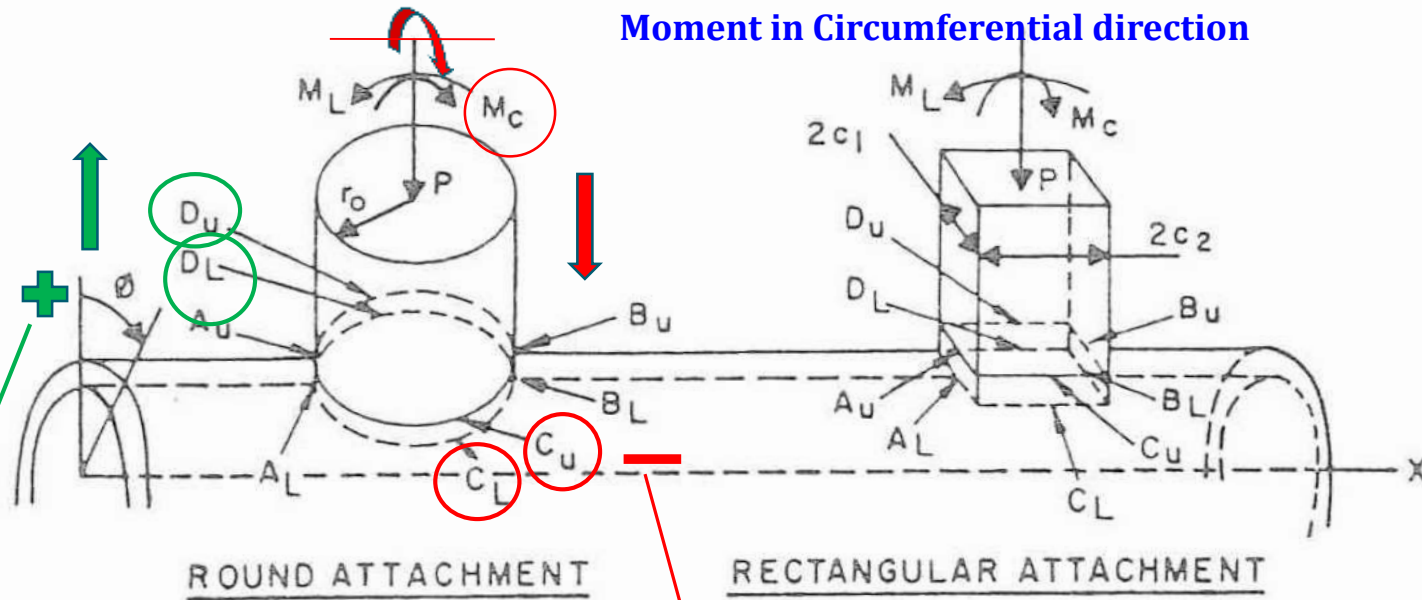


- ve For Compression Effect

+ ve For Tensile Effect

# WRC 107 Sign Conventions

Table 4—Sign Convention for Stresses Resulting from Radial and Moment Loading on a Cylindrical Shell

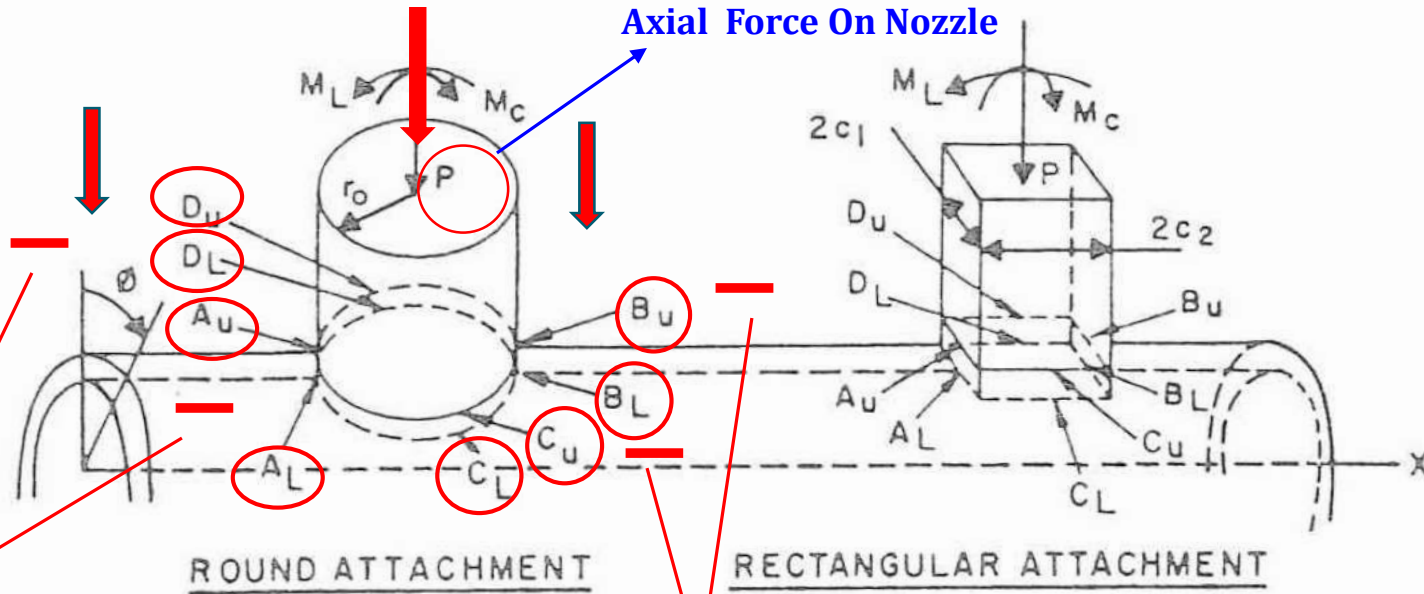


+ ve For Tensile Effect

- ve For Compression Effect

# WRC 107 Sign Conventions

Table 4—Sign Convention for Stresses Resulting from Radial and Moment Loading on a Cylindrical Shell

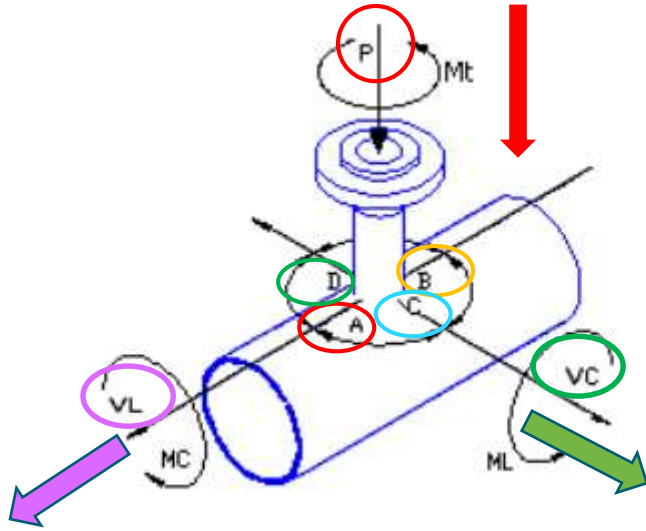


- ve For Compression Effect

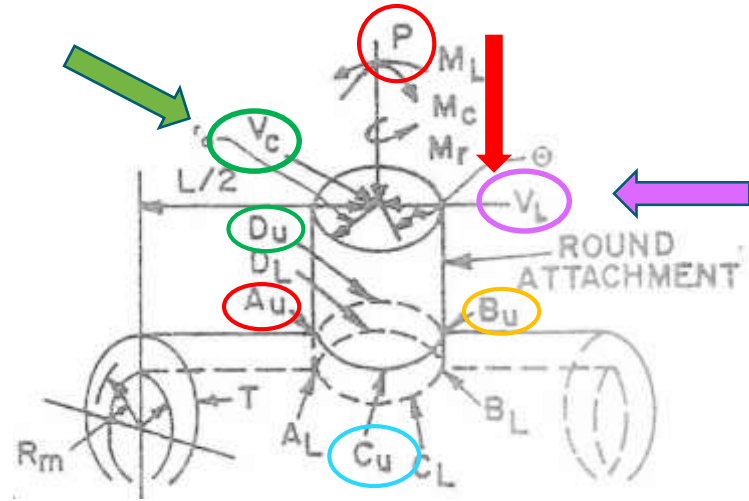
- ve For Compression Effect



# PV Elite Vs WRC Sign Conventions

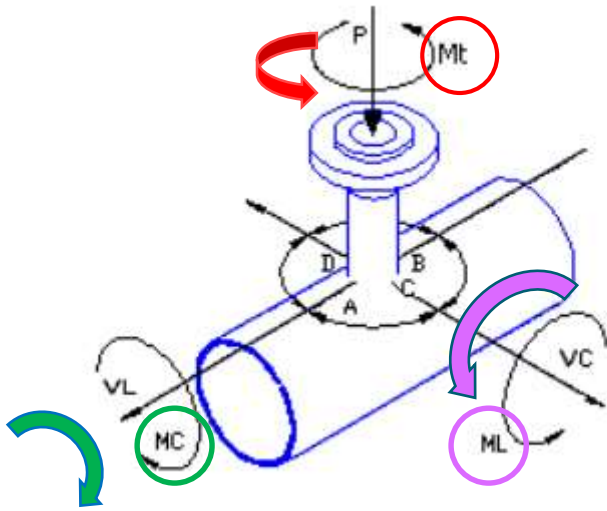


PV Elite Sign Conventions

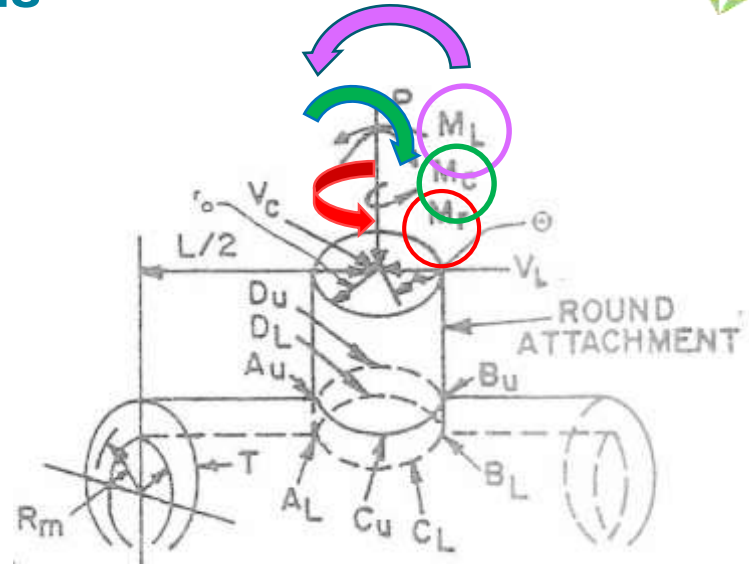


WRC Sign Conventions

# PV Elite Vs WRC Sign Conventions



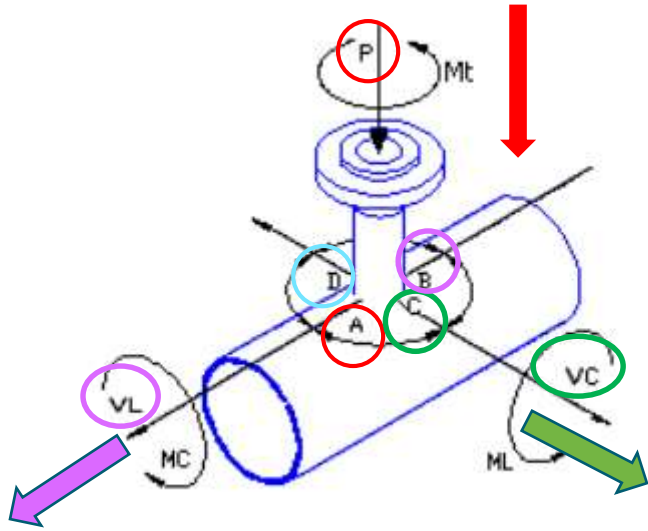
PV Elite Sign Conventions



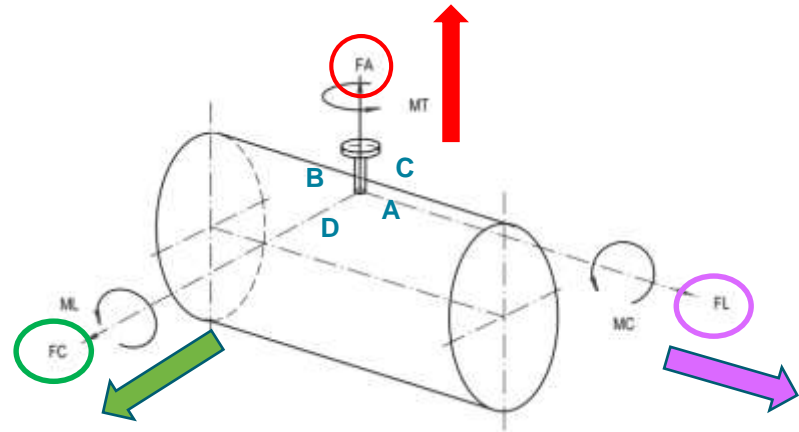
WRC Sign Conventions



# PV Elite Sign Conventions



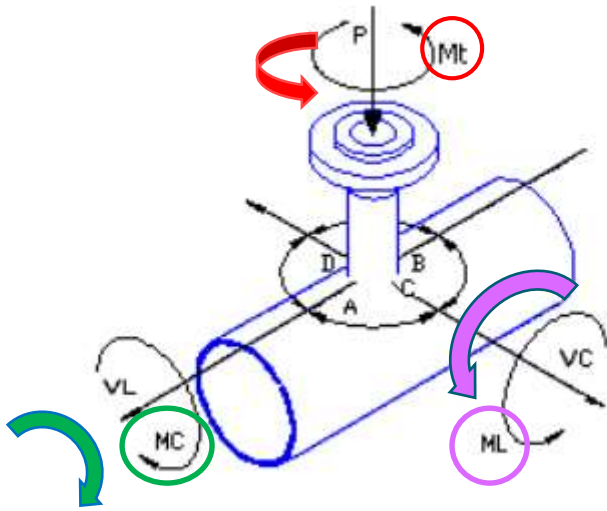
PV Elite Sign Conventions



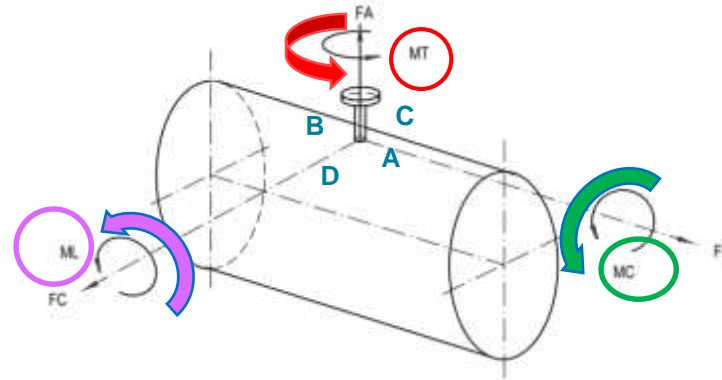
Customer Sign Conventions

Customer Sign Convention	FA	FL	FC	MT	ML	MC
PV Elite Sign Convention	- P	+ VL	+ VC	+ Mt	- ML	- MC

# PV Elite Sign Conventions



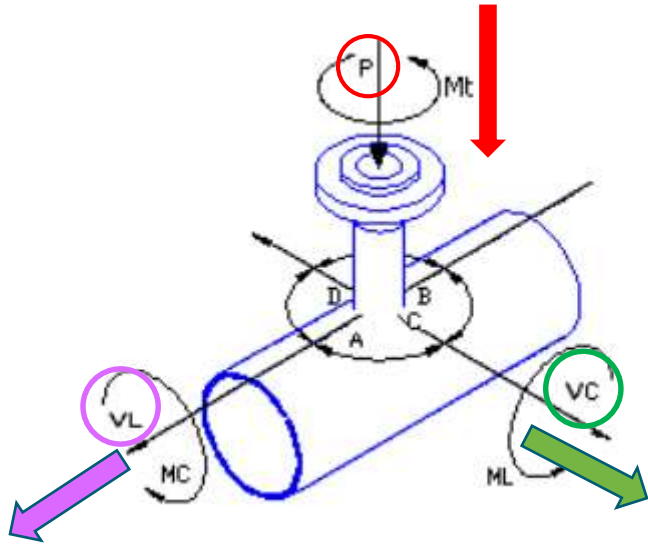
PV Elite Sign Conventions



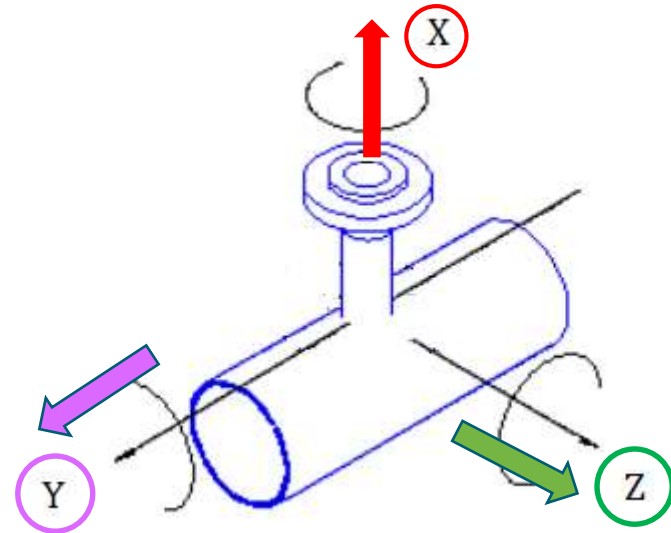
Customer Sign Conventions

Customer Sign Convention	FA	FL	FC	MT	ML	MC
PV Elite Sign Convention	- P	+ VL	+ VC	+ Mt	- ML	- MC

# PV Elite Vs NozzlePro Sign Conventions



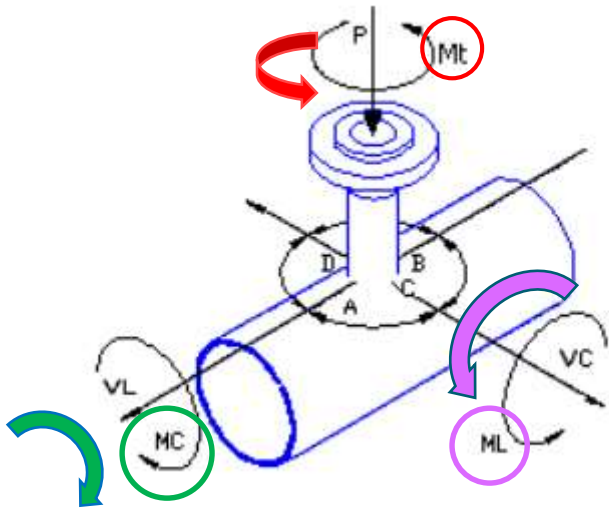
PV Elite Sign Conventions



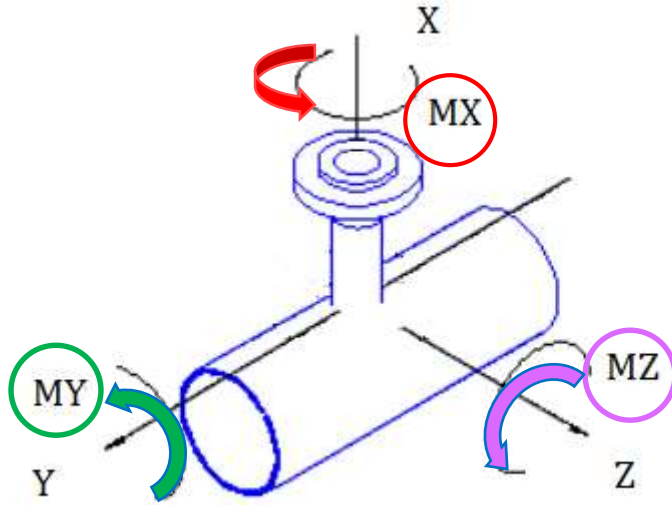
NozzlePro Sign Conventions

Customer Sign Convention	X	Y	Z	MX	MZ	MY
PV Elite Sign Convention	- P	+ VL	+ VC	+ Mt	+ ML	- MC

# PV Elite Vs NozzlePro Sign Conventions



**PV Elite Sign Conventions**



**NozzlePro Sign Conventions**

Customer Sign Convention	X	Y	Z	MX	MZ	MY
PV Elite Sign Convention	- P	+ VL	+ VC	+ Mt	+ ML	- MC



# Thank You!

Have a great conversation!