

Valve Quotes & Specifications – Where to Start

Viable Construction vs. Engineered Product

Viable Construction vs. Engineered Product

- Automatic control valves are engineered equipment, and “one size fits all” does not apply. Data tags and model numbers are not all-inclusive, so extra information is often needed. Possible sources:
 - Serial number – AS serial number tells us full construction. Look for the A/S stamp near the serial. OEM serial card and/or engineering spec sheet can be requested from the original manufacturer. We do not have access to that, but they can be provided to you on request.
 - Data tags on valve and actuator.
 - Engineering data or process conditions.
- Valves are quoted from customer-provided specifications. Either these specify construction, which we try to verify as ***Viable Construction***, or through sizing and selection we can build ***Engineered Product*** for your needs
- Consider why you are replacing:
 - Is this replacing an existing valve and were you happy with the performance?
 - Was there debris, damage, or was it just worn out?
 - Was it viable to start with or are there other issues going on?
 - Did your process conditions change?
 - Do you want a direct replacement, or could you use some engineering help to review?

Viable Construction – may start from model number, data tag, etc.:

- Reorder a valve if you were happy with the same one in same service. If ordered from us, we can easily pull the construction details from previous orders with your serial or PO information.
- Data tag information can go a long way, but is NOT comprehensive:
 - Missing information – see breakdown by rotary and sliding stem.
 - Those attached to an actuator do not always reflect the actual build of the valve due to changes or other modifications of valve or trim over time.
 - Contain only general references to materials of construction – SST can be 316, 416, etc.
 - Frequently, valves and actuators are “made to work” in the field – any signs of modifications or machining can indicate differences from standard construction or data tag.

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- We review if the construction indicated is viable:
 - We may need further information to get a full and accurate model code for construction.
 - We may need to make some general assumptions early in quoting to get a model for review.
 - Any assumptions will be communicated during RFQ process.
 - If a model code is complete and accepted without use of a valve specification data sheet, then performance of the valve in your process cannot be verified or confirmed.

Engineered Product:

- When you need it: New construction, process conditions have changed, your valve is not performing as you expect, you want to consider modifications, or you just aren't sure what you need. Our engineering team is available to assist with sizing and selection to get you the valve you need.
- Automatic control valves, if not properly sized, may not pass the required flow or may not operate in a range needed to effectively control the process.
- The actuator must be sized to match the amount of force required to operate the valve. Without proper sizing, an actuator can be sluggish and not respond adequately to control signal changes, resulting in instability of the process being controlled. A missized actuator can also keep the valve from attaining its designed shutoff classification, and objectionable leakage may occur.
- AS Control Valve Worksheet² conforms to ISA Form 20 Specification Sheet for Automatic Control Valves:
 - Other engineered datasheets, such as those from the OEM or a previous supplier, are also accepted.
 - Designed to collect & organize necessary data, it is not all-inclusive, but it replaces lengthy emails describing the process and scattered and incomplete information.
 - Easy-to-follow instructions are included in the document. Fill out as much of the Process Data section of the data sheet as you can, along with any other information or expectations.
 - We may still need to make assumptions, but critical information will be requested and needs to be provided before determining final construction.
- Valve Selection & Specification
 - Valve type and size for the application are selected by an application engineer once the required flow capacities are calculated. Also essential is specifying the appropriate materials of construction of the process wetted parts: trim, valve body/bonnet, and packing.
 - Actuator is properly sized and selected before engineering is complete.

Valve Quotes & Specifications - Where to Start

Where to start: Minimum needed to get a quote for further **Review, Revision, & Acceptance** ¹

- **Rotary* Vee-ball or Butterfly:**
 - Size
 - Body material
 - Flange rating
 - Vee-balls –
 - V150, V100, V200, or V300
 - Butterfly –
 - 8500, 8510, 8532, 8550, 8560
 - Connection type (lugged or wafer)
 - Shaft size (if stand-alone)*
 - Seal/seat material*
 - Fail position*
 - Packing material *or process type and process temp* ²
 - Actuator type and size – common models
1051, 1052, 1061, 1066; less frequent 2052, 480, 656*
 - Operating range of actuator
 - Initial set* *or max pressure/DP @ shutoff to size actuator initial set* ²
 - Positioner type – models 3600, DVC6000, and DVC6200*

Rotary data tag information includes:

- Actuator type & size, spring action
- Actuator bench/initial set
- Body type, size, ANSI class, material
- Trim materials

Visual Identification can often confirm

- Packing type
- Connection type: flange, wafer, lugged
- Accessories
- Valve/actuator mounting orientation

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- **Sliding Stem (Globe Body):**

- Size
- Body material
- Flange rating
- Port size
- ED, ES, ET, or EZ
- Trim material
- Packing material *or process type and process temp* ²
- Actuator type and size – *common models 657 or 667 (fail position); 513, less frequent 470, 585, 655*
- Operating range of actuator
- Bench set *or max pressure/DP @ shutoff to size actuator bench set* ²
- Positioner type – *models 3582, 3582i, DVC6000, and DVC6200*

Sliding stem tag information includes:

- *Actuator type & size, failure action*
- *Actuator travel & bench set*
- *Body type, size, ANSI class, material*
- *Port size & flow characteristic*
- *Trim type & materials*

Visual identification can often confirm:

- *Packing type*
- *Connection type*
- *Accessories*
- *Valve/actuator mounting orientation*

Not always included on data tag:

- *Packing type & material*
- *Connection type: RF, RTJ, NPT, or welded*
- *Severe service trim*
- *Trim material listed as "SST"*
- *Accessories: handwheel, valve positioner, I/P, Solenoid, etc.*
- *NACE compliance*

Valve Quotes & Specifications

¹We will send you a Quote with detailed construction for **Review, Revision, & Acceptance:**

- Review to confirm it is what you are expecting or indicate any revisions you may need.
- Additional documentation may be included as needed or on request, such as valve spec sheets, drawings for non-standard shafts, information still needed, assumptions made, etc.
- We will revise and resend the quote until you accept and send us your PO.
- Receiving a PO is considered acceptance of any information communicated and of the detailed construction included.

²**Fill out a [valve specification datasheet](#) and our engineering team can help with sizing and selection using standard industry software to get you the right valve assembly for your process conditions!**

Sales and product support: 800-325-4808