

# BUTTERFLY CONTROL VALVE AMX - Advanced Modulating eXecution

MORE THAN 125 YEARS OF EXPERIENCE AS A SUPPLIER OF VALVES AND INSTRUMENTATION

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## CONTENT

- 2 Description
- 3 Product Highlights
- 4 Parts list
- 5 Valve Flow Coefficient
- 6 GA-Drawing

## DESCRIPTION

Experience the next level of performance and efficiency with our advanced butterfly valve, developed with equal percentage flow characteristics.

The valve is ideal for modern systems that require accurate, stable, and energy-efficient control – both in industrial and commercial applications.

A control valve with equal percentage characteristics is designed so that each increment in valve opening results in a percentage change in flow equal to the percentage change from the previous step. In other words, when the valve is opened by the same amount, the flow rate changes by an equal percentage, not by an equal volume.

## Why Use Equal Percentage Valves?

- They maintain better control stability in systems with varying pressure drops.
- They ensure more uniform control over the full range of operation.
- They help maintain proportional control, reducing the risk of hunting or cycling in control loops.



Model JSC-AMX is a high-performance rotary control valve developed for applications requiring reliable sealing and precise flow regulation.

With a specially designed reinforced rubber seat, the JSC-AMX eliminates the need for a separate shut-off valve, resulting in reduced installation complexity and lower overall costs.

The valve complies with ISO face-to-face dimension standards, making it ideal for global industrial use, including HVAC systems, process plants, fluid and air handling systems.

## PRODUCT HIGHLIGHTS

## FLOW CONTROL PRECISION

Our butterfly valve delivers an equal percentage flow curve, meaning each incremental change in valve position results in a consistent percentage change in flow. This allows for smooth, stable, and accurate control across the entire range of valve travel.

#### OPTIMIZED FOR VARIABLE CONDITIONS

Perfect for systems where flow demand changes frequently. The valve provides fine control at low openings and higher capacity at larger openings, making it suitable for dynamic environments such as HVAC, water treatment, process industries, and energy systems.

#### COMPACT AND EFFICIENT DESIGN

Built with a streamlined disc and low-torque operation, the valve reduces pressure drop and ensures energyefficient flow regulation.

## DURABLE CONSTRUCTION

Manufactured from corrosion-resistant materials and designed for longevity, our valve withstands challenging media and fluctuating pressures.

## STABLE PROCESS CONTROL

Enhanced regulation reduces fluctuations, leading to better system performance

#### **ENERGY SAVINGS**

Efficient flow control minimizes overuse and pressure losses.

## VERSATILITY

Ideal for throttling applications across a wide variety of industries.

## REDUCED MAINTENANCE

Fewer moving parts and wear-resistant design reduce downtime and service.

## WRAS APPROVAL

Certified to be safe and legally compliant for use in drinking water systems.

## C5-M PAINT SYSTEM

High-performance corrosion protection system designed for marine and coastal environments with high salinity.





#### PART LIST

#### ENGINEERED FOR DURABILITY

The JSC-AMX is engineered for durability, corrosion resistance, and reliable sealing, making it wellsuited for demanding industrial applications. Each component contributes specific advantages:

#### Body – Ductile Iron GGG40 with C5-M Coating

Offers excellent mechanical strength and impact resistance, while maintaining a cost-effective and durable structure ideal for marine and coastal environments.

#### Seat – EPDM (Ethylene Propylene Diene Monomer)

Provides excellent sealing performance with high resistance to water, steam, and a wide range of chemicals. Ideal for applications involving potable water or mildly corrosive media.

#### Disc – Super Duplex 2207

Exceptional corrosion resistance, especially in chloride-containing environments. Its high strength and resistance to pitting and crevice corrosion make it ideal for seawater, brine, and aggressive chemical services.

#### Upper and Lower Shafts – Super Duplex 2207

Ensure long-term durability and corrosion resistance under harsh conditions, reducing the risk of mechanical failure or degradation over time.

#### **Bushings – PTFE (Polytetrafluoroethylene)**

Low-friction, self-lubricating material minimizes wear and ensures smooth operation of the valve with reduced maintenance.

#### **O-Ring – NBR (Nitrile Rubber)**

Provides reliable sealing and good resistance to oils, fuels, and other hydrocarbons.

#### Stop Cover & Screws – Galvanized Steel

Enhanced corrosion protection and mechanical stability for external components, contributing to overall valve longevity.

ITEM	DESCRIPTION	MATERIAL	QTY
1	Body	DI GGG40	1
2	Seat	EPDM	1
3	Disc	Super Duplex 2207	1
4	Upper Shaft	Super Duplex 2207	1
5	Long Bushing	PTFE	2
6	Short Bushing	PTFE	2
7	O-Ring	NBR	1
8	Stop Cover	Galvanized Steel	1
9	Lower Shaft	Super Duplex 2207	1
10	Screw	Galvanized Steel	2



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## VALVE FLOW COEFFICIENT

SIZE			OPENING ANGLE						
mm	inch	Ì	10°	20°	30°	40°	50°	60°	70°
50	2	Kv	3	11	22	38	53	69	85
80	3	Kv	14	33	58	88	120	140	176
100	4	Kv	17	43	80	127	190	275	363
150	6	Kv	55	120	210	320	450	630	825
200	8	Kv	70	175	330	550	860	1 265	1 595
250	10	Kv	96	280	455	760	1 2 3 0	1 800	2 5 1 5
300	12	Kv	150	410	740	1 240	1 900	2 700	3610
350	14	Kv	180	480	900	1 500	2 200	3 300	4 4 4 0
400	16	Kv	200	550	1 100	1 900	3 000	4 400	5 650



# Flow Characteristics



## WHY THE "EQUAL PERCENT" CURVE IS BETTER FOR CONTROL

When regulating flow in a system, it's important that small changes in valve opening provide smooth and accurate control, especially at low openings. This is essential for precise regulation, such as in temperature or pressure control.

A regular butterfly valve has a more linear curve, meaning it allows a lot of flow early on, and offers little fine control at lower openings. This makes it difficult to regulate accurately at small valve positions.

A valve with an "equal percent" characteristic has a concave curve at the start, so the flow increases slowly at first. This provides better control at small openings, and as the valve opens further, the flow increases more rapidly (exponentially).

That's why the concave "equal percent" curve is better suited for precise control, especially in systems where the valve position varies widely and accurate adjustment is important.

# GA DRAWING



DN	А	В	С	D2	N-D3	F-F	SQR/4>(W)	D4	N-D5	D6
DN50	70	124	15	125	4-M16	43	]]	F07	4-10	90
DN65	77	134	15	145	4-M16	46	]]	F07	4-10	90
DN80	90	141	15	160	8-M16	46	]]	F07	4-10	90
DN100	104	156	15	180	8-M16	52	14	F07	4-10	90
DN125	118	168	20	210	8-M16	56	14	F07	4-10	90
DN150	135	184	20	240	8-M20	56	17	F07	4-10	90
DN200	166	213	25	295	8-M20	60	22	F10/F12	4-12/4-14	150
DN250	202	244	25	350	12-M20	68	22	F10/F12	4-12/4-14	150
DN300	232	283	25	400	12-M20	78	22	F10/F12	4-12/4-14	150
DN350	248	368	30	460	16-M20	78	27	F12/F14	4-14/4-18	175
DN400	309	400	30	515	16-M24	102	27	F12/F14	4-14/4-18	175





J.S.Cock is one of Norway's leading suppliers of valves, instruments, and complete process equipment packages to industries within the fields of shipping, offshore, petrochemicals, food processing, pharmaceuticals, wastewater treatment, smelting, hydropower, and pulp and paper. For more than 20 years J.S.Cock has also been leading supplier of valves and filtration systems to the fish farming industry in Norway. J.S.Cock has also designs and develops its own valves, which are manufactured externally and sold under the JSC brand. Trondheim Bergen Oslo Larvi Stavanger Arendal post@jsc.no | www.jsc.no

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