

FKX 9000



NEW!

UNMATCHED RELIABILITY, SUPERIOR EMISSIONS CONTROL AND BI-DIRECTIONAL SHUTOFF WITH LOWER OPERATIONAL COST UP TO 40%.

CRANE[®] FKX 9000
Trimline Series
Triple Offset Butterfly Valves

CRANE[®]



www.cranecpe.com

FKX9000 Trimline Series: Customer Benefits



Space Efficient, Modular Design:

Space saving to 40% with direct mounted actuation.



Superior Reliability, Peak Efficiency :

Tested to 50,000 cycles, ensuring up to 10 years of maintenance-free operation with superior sealing and reliable shut-off.



Lower long-term operational cost:

Lighter valve weight, reduced torque, leads to reduced energy consumption.

FKX9000 Trimline Series: Design Features

Space Efficient, Modular Design:

1. **Smaller Actuator** : Upto 40% Torque Reduction
2. **Smaller Footprint** : Easy to install on skids with less pipe support
3. **Improved efficiency**: Elimination of coupling with diamond shaft connection

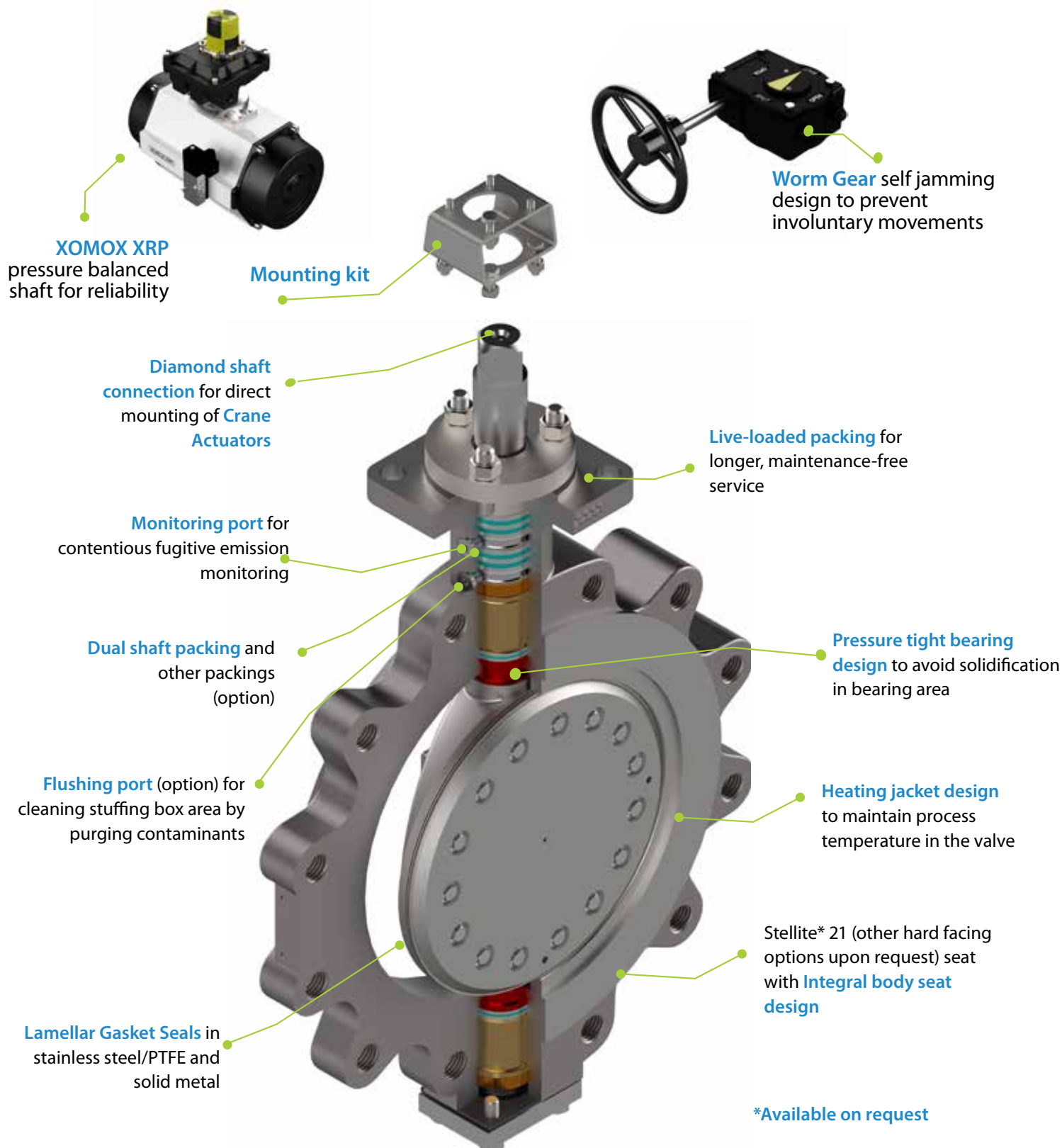
Superior Reliability, Peak Efficiency

4. **Cast in integral body seat with hard face** overlay in Stellite 21 designed for durability.
5. **No Inline Seat Leakage** : No bolted-in Seat design avoiding corrosion and potential valve jamming
6. **Self-releasing 25° seat angle** designed to eliminate wedging or binding
7. **Excellent resistance to thermal shocks** reduces risks of thermal misalignments

Lower long-term operational cost:

8. **Lower Energy Cost** with 40% lower torque resulting in lower air consumption
9. **Lower maintenance cost** due to thicker lamella seal for unmatched robust large sealing surface
10. **Pressure Tight bearing** prevents particle ingress in bearing region avoiding valve jamming and unplanned outage

FKX9000 Trimline Series: Design Features

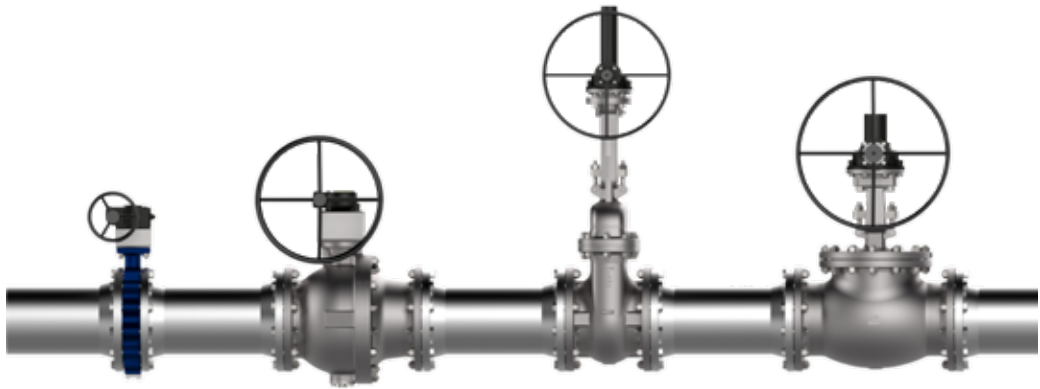


FKX9000 Trimline Series: Addressing Key Customer Challenges

Customer Challenges		CRANE FKX 9000 Solution
Reliability	Bidirectional Zero leakage	- Reliable and repeatable bidirectional zero leakage performance - Zero Leakage per API 598 soft-seat standard
	Long Service Life	- Hard faced Stellite 21 Integral body seat - Thicker lamella cross section
	Valve jamming	Best in class Pressure Tight Bearing technology for protection from media build up in bearing cavities
Efficiency	Valve Envelope	40% lower footprint - Compact actuation
	Compact Actuation	- Torque seated design - Upto 40% * lower running cost
	Maintenance Costs	Maintenance Free Integral seat design
Compliance	Fugitive Emission	- ISO 15848 Part 1 - BH-CO3-SSA1-t(RT,400°C) - TA Luft 2021 - BH-CO3-SSA0-t(RT,400°C) - API 641 1st Edition – Group A
	Material Selection	- Inherently Fire safe - Demonstrated material compatibility expertise

FKX9000: Engineered for Reliability, Optimized for Efficiency, Built for Compliance.

FKX9000 Trimline Series: Space Efficient, Modular Design



Valve size 10" - 150

Valve size 10" - 150	Butterfly Valve	Ball Valve	Gate Valve	Globe Valve
Weight (kg)	63	297	411	505
Face to face (mm)	71	533	330	622
Height (mm)	496	712	1211	941

Benefits of Triple offset Valve over Ball, Gate and globe valves

Compact Footprint: TOVs use a rotary motion and offset geometry, eliminating the need for large actuators or extended stems.

Multi-functionality: They combine isolation and control capabilities, reducing the need for multiple valve types.

Reduced Weight: Lighter construction means easier handling and installation, especially in elevated or confined spaces.

Lower CAPEX: Their design can reduce piping complexity and support structures, cutting down on capital expenditure.

FKX9000 Trimline Series: Superior Reliability, Peak Efficiency

Leak-Free Reliable, Maintenance free with Crane Cast-in Integral Seat



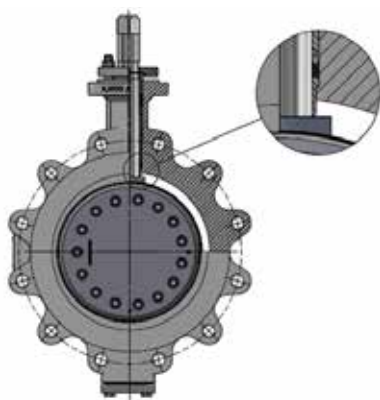
FKX 9000 Integral
Body Seat

**Superior Structural Integrity
Enhanced Thermal Stability
Reduced Maintenance & Downtime**



Bolted – In Body

Valve Jamming elimination with Pressure Tight bearing technology



Protect What Matters Most – Inside and Out :

The Pressure Tight Bearing Protector prevents polymerization, crystallization, or solidification of aggressive media in the bearing area - ensuring smooth, uninterrupted valve operation.

Engineered for Safety and Longevity :

By sealing off the stem's bearing/bushing region from harmful fluids, this innovation enhances operator safety and significantly extends valve life in harsh chemical environments.

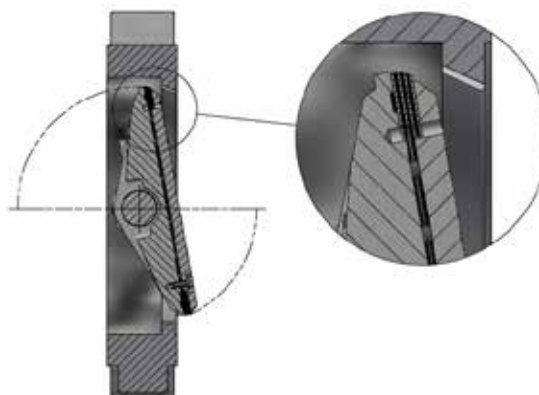
Extended Service life with Metal-to-Metal Sealing and Wide Gasket

Robust Sealing for Extreme Conditions :

The Crane® FKX 9000's metal-to-metal sealing delivers dependable shutoff in high-pressure, high-temperature, and corrosive environments.

Durability That Outlasts the Competition :

The Crane® FKX 9000's thick, precision-engineered seal ring offers a larger sealing surface and superior longevity compared to thinner alternatives, while the ultra-smooth finish minimizes friction for consistent, reliable shutoff.



FKX9000 Trimline Series: Lower long-term operational cost



Actuator Selection for typical process application

Process Parameters

Line Size	: 8" (DN200)
Line Pressure	: 20 Bar (290 PSI)
Pressure Class	: #150 (PN25)
Media	: High Pressure Steam
Flow Direction	: Full rated Bi-directional

	Competition	FKX9000-T (Trimlineseries)	Savings
Valve torque (Nm)	782	473	40%
Actuator Size (Xomox XRP)	XD180D00	XD090D00	2sizesmaller
Airconsupntionperstroke(dm ³)	7.21	3.6	49%

FKX9000 Trimline Series Product Overview

Materials of Construction :

- Standard: WCB, CF8M
- Other materials available on request

Size Range

- 3" - 24", in a single piece cast body design

Pressure Ratings

- ASME Class 150

Temperature Range

- -20°F up to 800°F; -29°C up to 450°C, depending on material selection

Body Configurations

- Lug
- Double flange short design
- Butt weld design on request

Applications:

Chemical & Biofuel Applications :

MDI/TDI, Phosgene, Methionine, Aniline/ Cumene, Molecular Sieve

Petrochemical Applications

VCM , Ethylene , EO –EG,PDH, Benzene, Propylene

Oil & Gas and Refining

LNG Regasification, Tanker pipelines FCCU, Hydrotreater, CCR,SRU,CDU

Midstream Applications in Oil & Gas

Tank and terminal Isolation, Manifold Systems

Steam & Water Treatment :

High Pressure, Medium Pressure, District Steam Heating, Drinking Water, Feed Water , Hot Water , Cooling Water

Air Products and Industrial Gases

Hot Air, Nitrogen, Speciality gases, Natural Gas, Green Hydrogen



Efficiency: Optimized torque and emissions performance minimizes energy use and operational costs.

Delivers consistent, reliable operation even under demanding chemical processing conditions.

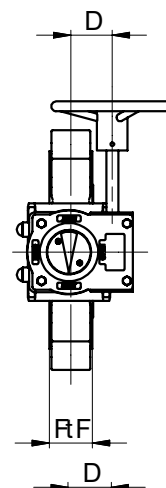
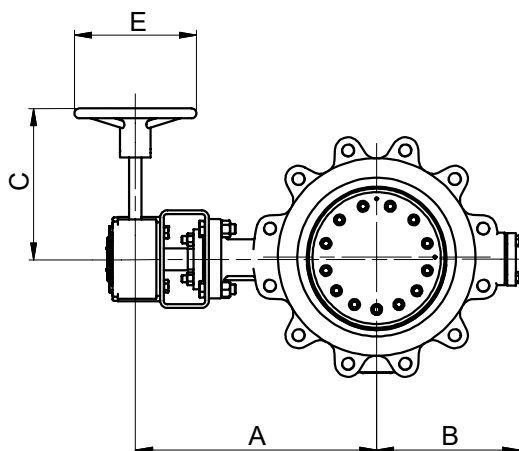
FKX9000 Trimline Series: Dimensional Data

Lug Design

Dimensions and Weights Class 150

NPS	Dimensions (mm)						Weight (kg)
	FtF	A	B	C	D	øE	
3"	48	282	128	148	43	150	15
4"	54	297	143	148	43	150	20
6"	57	319	168	207	52	150	28
8"	64	349	199	207	52	150	40
10"	71	396	234	249	71	200	63
12"	81	431	274	284	71	300	94
14"	92	512	315	287	86	400	135
16"	102	532	336	305	86	500	171
18"	114	673	363	346	105	500	247
20"	127	711	388	320	53	350	310
24"	154	775	458	384	106	300	455

Gear sizing valid for valves with standard packing configuration
FKX9000-xNLG-xxx1-x-1AA-G-T-ES,
suitable for bi-birectional service and gasoues flow media

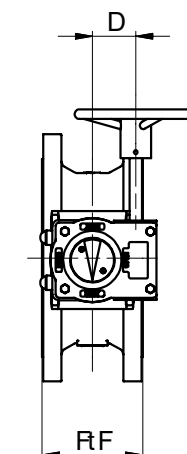
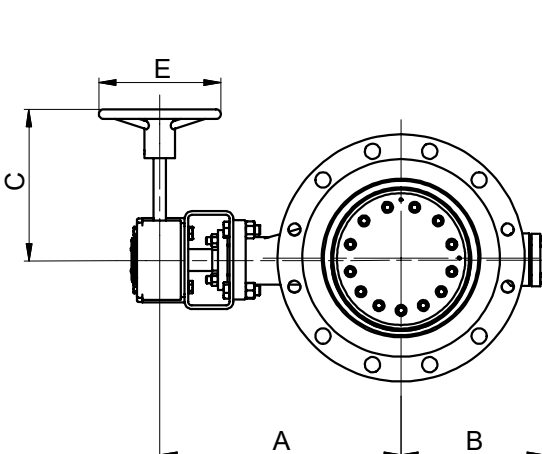


Double Flanged, Short Pattern Design

Dimensions and Weights Class 150

NPS	Dimensions (mm)						Weight (kg)
	FtF	A	B	C	D	øE	
3"	114	282	128	148	43	150	21
4"	127	297	143	148	43	150	27
6"	140	319	168	207	52	150	38
8"	152	349	199	207	52	150	55
10"	165	396	234	249	71	200	84
12"	178	431	274	284	71	300	122
14"	190	512	315	287	86	400	170
16"	216	532	336	305	86	500	210
18"	222	673	363	346	105	500	290
20"	229	711	388	320	53	350	343
24"	267	775	458	384	106	300	494

Gear sizing valid for valves with standard packing configuration
FKX9000-xNLG-xxx1-x-1AA-G-T-ES,
suitable for bi-birectional service and gasoues flow media

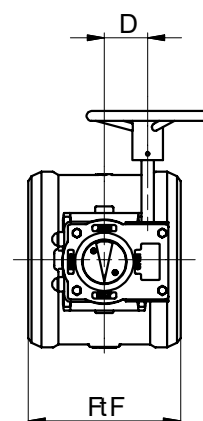
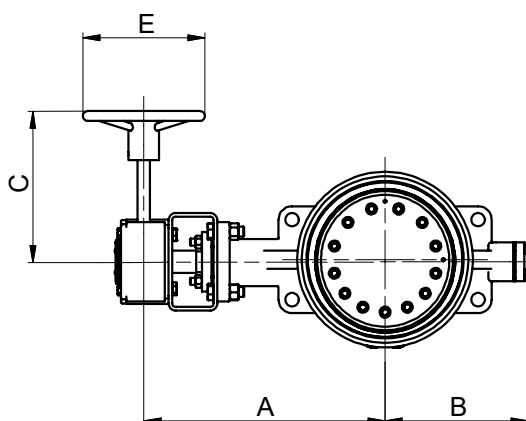


Double Flanged, Short Pattern Design

Dimensions and Weights Class 150

NPS	Dimensions (mm)						Weight (kg)
	FtF	A	B	C	D	øE	
3"	180	282	128	148	43	150	15
4"	190	297	143	148	43	150	18
6"	210	319	168	207	52	150	28
8"	230	349	199	207	52	150	37
10"	250	396	234	249	71	200	61
12"	270	431	274	284	71	300	78
14"	290	512	315	287	86	400	117
16"	310	532	336	305	86	500	138
18"	330	673	363	346	105	500	212
20"	350	711	388	320	53	350	250
24"	390	775	458	384	106	300	362

Gear sizing valid for valves with standard packing configuration
FKX9000-xNLG-xxx1-x-1AA-G-T-ES,
suitable for bi-birectional service and gasoues flow media



FKX9000 Trimline Series: Torque Selection Guidelines

Uni-Directional Service

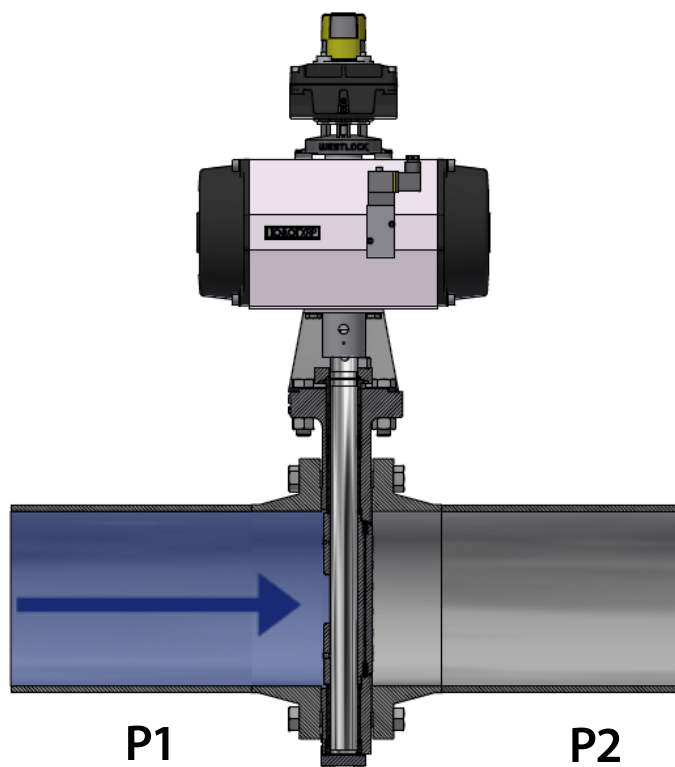
Pressure from shaft side in preferred flow direction.

Application: Isolation service, Dead End service

Often used in isolation service where the pressure direction is predictable (e.g., downstream in a pump discharge).

Lower overall valve torque demand for tight shut-off.

Please refer torque values on page 12



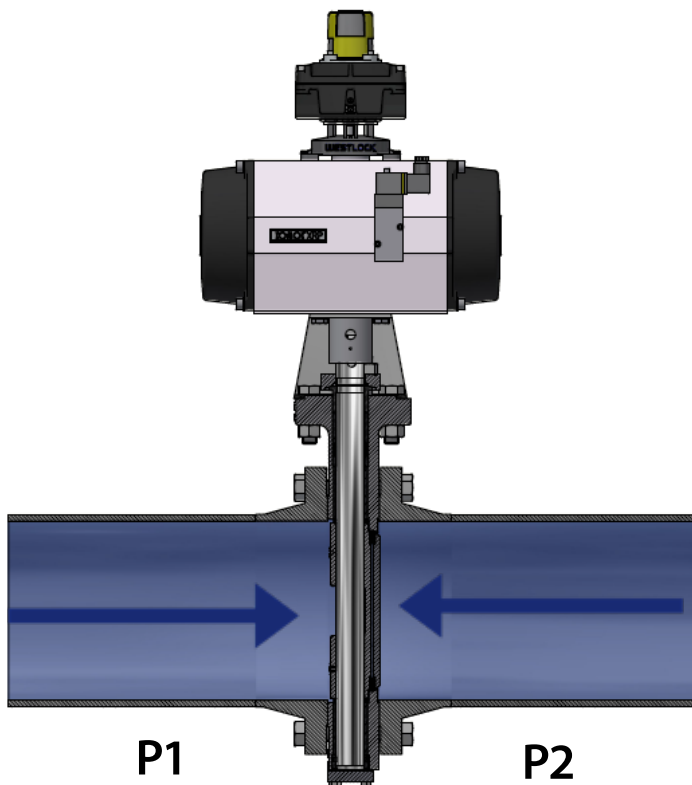
Bi-Directional Service

Pressure from shaft side and disc side in preferred and non-preferred flow direction.

Used in pipelines where flow direction can change or where reverse pressure resp. backflow may occur.

Higher overall valve torque demand for tight shut-off compared to Uni-Directional Service.

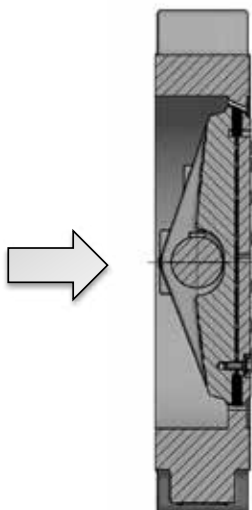
Please refer torque values on page 13



FKX9000 Trimline Series: Isolation Service Torque Data

Uni-Directional - Pressure from shaft side

Often used in isolation service where the pressure direction is predictable (e.g., downstream in a pump discharge).



NPS	Valve torques (Nm)																	
	dP 6bar						dP 10bar						dP 20bar					
	close to open			open to close			close to open			open to close			close to open			open to close		
	BTO	RTO	ETO	BTC	RTC	ETC	BTO	RTO	ETO	BTC	RTC	ETC	BTO	RTO	ETO	BTC	RTC	ETC
3"	69	58	55	66	58	106	79	60	56	67	60	106	103	65	56	67	65	106
4"	69	58	55	66	58	145	78	60	56	67	60	145	101	65	56	67	65	145
6"	116	90	83	100	90	180	138	95	84	100	95	180	195	107	85	102	107	188
8"	162	116	103	123	116	246	203	125	103	124	125	246	304	149	105	126	149	275
10"	278	190	165	197	190	457	356	209	166	199	209	457	549	257	169	203	257	513
12"	332	205	167	200	205	650	444	233	168	202	233	650	723	303	171	205	303	656
14"	490	310	255	307	310	787	650	352	258	310	352	787	1048	457	264	317	457	1042
16"	551	327	254	304	327	1037	751	380	256	307	380	1037	1253	514	262	315	514	1232
18"	1005	676	565	677	676	1318	1304	758	569	683	758	1318	2050	963	581	697	963	1939
20"	1191	729	571	685	729	1433	1609	845	575	690	845	1460	2655	1134	587	704	1134	2301
24"	2102	1275	982	1178	1275	2079	2856	1490	989	1187	1490	2526	4741	2026	1008	1210	2026	3984

Torque values for configuration FKX9000-xNxx-xxx1-x-1AA-x-T-ES, only.

Operating conditions for gasous media, uni-directional flow with safety factor s=1,25

For torque values for other configurations or operating conditions consult factory.

NPS	Valve torques (Nm)																	
	dP 6bar						dP 10bar						dP 20bar					
	close to open			open to close			close to open			open to close			close to open			open to close		
	BTO	RTO	ETO	BTC	RTC	ETC	BTO	RTO	ETO	BTC	RTC	ETC	BTO	RTO	ETO	BTC	RTC	ETC
3"	69	58	55	66	58	59	79	60	56	67	60	61	103	65	56	67	65	67
4"	69	58	55	66	58	62	78	60	56	67	60	66	101	65	56	67	65	77
6"	116	90	83	100	90	132	138	95	84	100	95	148	195	107	85	102	107	188
8"	162	116	103	123	116	168	203	125	103	124	125	198	304	149	105	126	149	275
10"	278	190	165	197	190	290	356	209	166	199	209	354	549	257	169	203	257	513
12"	332	205	167	200	205	335	444	233	168	202	233	427	723	303	171	205	303	656
14"	490	310	255	307	310	524	650	352	258	310	352	672	1048	457	264	317	457	1042
16"	551	327	254	304	327	579	751	380	256	307	380	766	1253	514	262	315	514	1232
18"	1005	676	565	677	676	1011	1304	758	569	683	758	1276	2050	963	581	697	963	1939
20"	1191	729	571	685	729	1124	1609	845	575	690	845	1460	2655	1134	587	704	1134	2301
24"	2102	1275	982	1178	1275	1942	2856	1490	989	1187	1490	2526	4741	2026	1008	1210	2026	3984

Torque values for configuration FKX9000-xNxx-xxx1-x-1AA-x-T-ES, only.

Operating conditions for liquid media, uni-directional flow with safety factor s=1,25

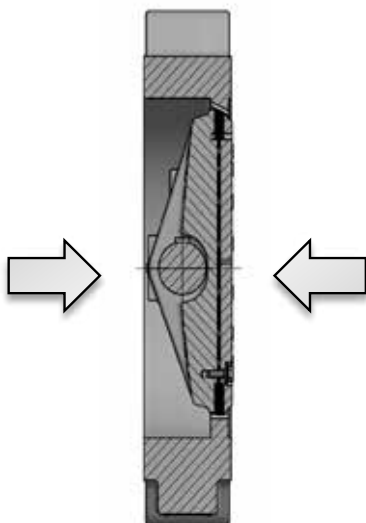
For torque values for other configurations or operating conditions consult factory.

***For optimum actuator sizing Please contact TOVexperts@Cranecpe.com directly or review data sheets for additional information regarding actuator selection. Technical information, sizing charts, and datasheets can be accessed or downloaded at <https://cranecpe.com/de/product/crane-fkx-9000/>.**

FKX9000 Trimline: Series Back Pressure Torque Data

Bi-Directional - Pressure from shaft and disc side

Used in pipelines where flow direction can change or where reverse pressure / backflow may occur



NPS	Valve torques (Nm)																	
	dP 6bar						dP 10bar						dP 20bar					
	close to open			open to close			close to open			open to close			close to open			open to close		
	BTO	RTO	ETO	BTC	RTC	ETC	BTO	RTO	ETO	BTC	RTC	ETC	BTO	RTO	ETO	BTC	RTC	ETC
3"	69	58	55	66	58	106	79	60	56	67	60	106	103	65	56	67	65	119
4"	69	58	55	66	58	145	78	60	56	67	60	145	101	65	56	67	65	145
6"	116	90	83	100	90	251	138	95	84	100	95	251	195	107	85	102	107	252
8"	162	116	103	123	116	345	203	125	103	124	125	345	304	149	105	126	149	473
10"	278	190	165	197	190	639	356	209	166	199	209	639	549	257	169	203	257	823
12"	332	205	167	200	205	911	444	233	168	202	233	911	723	303	171	205	303	1109
14"	490	310	255	307	310	1101	650	352	258	310	352	1101	1048	457	264	317	457	1753
16"	551	327	254	304	327	1451	751	380	256	307	380	1451	1253	514	262	315	514	2129
18"	1005	676	565	677	676	1845	1304	758	569	683	758	1865	2050	963	581	697	963	3173
20"	1191	729	571	685	729	2005	1609	845	575	690	845	2312	2655	1134	587	704	1134	4061
24"	2102	1275	982	1178	1275	2911	2856	1490	989	1187	1490	3886	4741	2026	1008	1210	2026	6802

Torque values for configuration FKX9000-xNxx-xxx1-x-1AA-x-T-ES, only.

Operating conditions for gasous media, bi-directional flow with safety factor s=1,25

For torque values for other configurations or operating conditions consult factory.

NPS	Valve torques (Nm)																	
	dP 6bar						dP 10bar						dP 20bar					
	close to open			open to close			close to open			open to close			close to open			open to close		
	BTO	RTO	ETO	BTC	RTC	ETC	BTO	RTO	ETO	BTC	RTC	ETC	BTO	RTO	ETO	BTC	RTC	ETC
3"	69	58	55	66	58	74	79	60	56	67	60	87	103	65	56	67	65	119
4"	69	58	55	66	58	76	78	60	56	67	60	90	101	65	56	67	65	125
6"	116	90	83	100	90	133	138	95	84	100	95	167	195	107	85	102	107	252
8"	162	116	103	123	116	213	203	125	103	124	125	287	304	149	105	126	149	473
10"	278	190	165	197	190	361	356	209	166	199	209	493	549	257	169	203	257	823
12"	332	205	167	200	205	448	444	233	168	202	233	637	723	303	171	205	303	1109
14"	490	310	255	307	310	702	650	352	258	310	352	1002	1048	457	264	317	457	1753
16"	551	327	254	304	327	814	751	380	256	307	380	1190	1253	514	262	315	514	2129
18"	1005	676	565	677	676	1342	1304	758	569	683	758	1865	2050	963	581	697	963	3173
20"	1191	729	571	685	729	1613	1609	845	575	690	845	2312	2655	1134	587	704	1134	4061
24"	2102	1275	982	1178	1275	2720	2856	1490	989	1187	1490	3886	4741	2026	1008	1210	2026	6802

Torque values for configuration FKX9000-xNxx-xxx1-x-1AA-x-T-ES, only.

Operating conditions for liquid media, bi-directional flow with safety factor s=1,25

For torque values for other configurations or operating conditions consult factory.

FKX9000 Trimline Series: Fugitive Emission Certification



ISO 15848-1
BH-CO3-SSA1-t(RT,400°C)

API 641
Qualification
Certificate



Meeting new
TA-LUFT



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