

Urethane Bumpers - Configurable

Standard / Antistatic / Low Rebound / Heat Resistant / Vulkollan® / Abrasion Resistant / Ceramic Urethane

Specify alteration VC when negative I.D. tolerance is desired.

Standard / Precision	Through Hole Type	No Hole Type	Material	Hardness	Color (Photo No.)	
Standard Grade	AXFS	CXFS	Standard Urethane (Ether Polyurethane)	Shore A95	① Natural Color / Black	
	AXFH	CXFH		Shore A90		
	AXFM	CXFM		Shore A70		
	AXFL	CXFL	Standard Urethane (Ester Polyurethane)	Shore A50		
	AXFY	CXFY		Shore A30		
	AXFHE	CXFHE		Shore A90		
	AXFME	CXFME	Antistatic Polyurethane	Shore A70		② Gray
	AXFLE	CXFLE		Shore A50		
	AXFAN	CXFAN		Shore A70		
	AXHHF	CXHHF	Low Rebound Urethane	Shore A70		③ Gray
	VULHF	CXVHF		Shore A92		
	VULMF	CXVMF		Shore A68		
AEXHF	CXEHF	Super Abrasion Resistant Urethane Vulkollan®	Shore A90	⑤ Beige		
AEXMF	CXEMF		Shore A70			
AXCES	CXCES		Shore A95			
AXCEH	CXCEH	Abrasion Resistant Urethane	Shore A90	⑥ Dark Brown		
AXCEM	CXCEM		Shore A70			
AXCEM	CXCEM		Shore A70			
Precision Grade	AAFS	CAFS	Standard Urethane (Ether Polyurethane)	Shore A95	① Natural Color / Black	
	AAFH	CAFH		Shore A90		
	AAFM	CAFM		Shore A70		

Standard Grade

Through Hole Type

No Hole Type

Precision Grade

Through Hole Type

No Hole Type

The tolerances are verified at 23°C±2 and 40~80% humidity.

Thickness Condition	
L	V
L≤30	V≤D-4
L>30	V≤D-6

D Tolerance	
D	Tolerance
6-40	±0.2
41-60	±0.3
61-100	±0.4

L Tolerance	
L	Tolerance
10-100	±0.1
101-300	±0.2

Ordering Example

Part Number - D - L - V - C

AXFME - D35 - L51 - V23 - C

CXFM - D39 - L42 - B

Standard Grade (Standard Urethane Ether Type / Ester Type)

D	Unit Price																										
	AXFH, CXFH (Standard Grade, Standard Urethane, Shore A90)										AXFS, CXFS (Standard Grade, Standard Urethane, Shore A95)					AXFM, CXFM (Standard Grade, Standard Urethane, Shore A70)											
	L										L					L											
	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300
6-15																											
16-30																											
31-45																											
46-60																											
61-80																											
81-100																											

Standard Grade (Antistatic, Low Rebound Urethane)

D	Unit Price																										
	AXFHE, CXFHE (Antistatic Polyurethane, Shore A90)										AXFME, CXFME (Antistatic Polyurethane, Shore A70)					AXFLE, CXFLE (Antistatic Polyurethane, Shore A50)											
	L										L					L											
	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300
6-15																											
16-30																											
31-45																											
46-60																											
61-80																											
81-100																											

Standard Grade (Heat and Abrasion Resistant Urethane)

D	Unit Price																										
	AXHHF, CXHHF (Heat Resistant Urethane, Shore A90)										AEXHF, CXEHF (Abrasion Resistant Urethane, Shore A90)					AEXMF, CXEMF (Abrasion Resistant Urethane, Shore A70)											
	L										L					L											
	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300
6-15																											
16-30																											
31-45																											
46-60																											
61-80																											
81-100																											

Standard Grade (Vulkollan®, Ceramic Urethane)

D	Unit Price																										
	VULHF (Through Hole) / CXVHF (No Hole) (Vulkollan®, Shore A92)					VULMF (Through Hole) (Vulkollan®, Shore A68)					CXVMF (No Hole) (Vulkollan®, Shore A68)					AXCES, CXCESC (Ceramic Urethane, Shore A95)					AXCEH, CXCEH (Ceramic Urethane, Shore A90)						
	L										L					L					L						
	10-20	21-40	41-50	10-20	21-40	41-50	10-20	21-40	41-50	10-20	21-40	41-50	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300						
6-15																											
16-30																											
31-45																											
46-60																											
61-80																											
81-100																											

Precision Grade (Standard Urethane Ether Type / Ester Type)

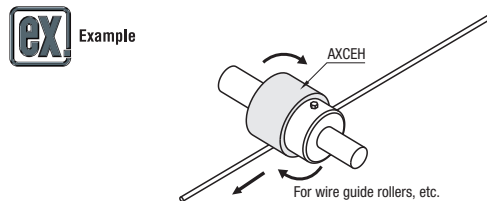
D	Unit Price																										
	AAFH, CAFH (Precision Grade, Standard Urethane, Shore A90)										AAFS, CAFS (Precision Grade, Standard Urethane, Shore A95)					AAFM, CAFM (Precision Grade, Standard Urethane, Shore A70)											
	L										L					L											
	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300	10-20	21-40	41-60	61-80	81-100	101-150	151-200	201-250	251-300
6-15																											
16-30																											
31-45																											
46-60																											
61-80																											
81-100																											

Part Number	1mm Increment			Selection
	D	L	V (For Through Hole Type Only) / C (For Standard Urethane Only)	
Standard Grade				
Through Hole Type				
AXFS	6~100	10~300	2~86	N (Natural Color)
AXFH				
AXFM				
AXFL				
AXFY				
AXFHE				
AXFME				
AXFLE				
AXFAN				
AXHHF				
*VULHF				
*VULMF				
No Hole Type				
CXFS	For Vulkollan® Only 6~45	For Vulkollan® Only 10~50	When D≥16, V≥4 When D≥31, V≥6	B (Black)
CXFH				
CXFM				
CXFL				
CXFY				
CXFHE				
CXFME				
CXFLE				
CXFAN				
CXHHF				
*CXVHF				
*CXVMF				
AEXHF				
AEXMF				
AXCES				
AXCEH				
AXCEM				
Precision Grade				
Through Hole Type				
AAFS				
AAFH				
AAFM				
No Hole Type				
CAFS				
CAFH				
CAFM				

The thickness of Through Hole Type (D-V)/2 is restricted by L. Refer to the table (Thickness Condition) in the drawing. When V=2, L≤50.
 When L≥201, V≥8
 For Vulkollan®, D dim. will be up to 45mm, and L dim. will be up to 50mm.

Characteristic Values of Antistatic Urethane		Compression Set of Low Rebound Urethane	
Specific Volume Resistivity	2.1x10 ⁹ Ω·cm	Low Rebound Urethane	1%
Surface Resistivity	4.0x10 ⁹ Ω	Urethane (Shore A70)	25%

(Conditions: Temperature 30°C Humidity 60%)
 * The above data is measured at room temperature 23°C.
 * 70°Cx24H 25% Compression



Alterations

Part Number - D - L - V - C - (VC)

AXFH - D20 - L10 - V10 - N - VC

I.D. Negative Tolerance		
Applicable Type	Hardness	Tolerance
AXFH	Shore A90	V-0.1~-0.4
AXFM	Shore A70	V-0.2~-0.6
AXFL	Shore A50	V-0.6~-1.0

When mating is tight, warm the bumpers in hot water before inserting the shaft.

Code VC

Spec. Changes V to negative tolerance.
 Only applicable to AXFH, AXFM and AXFL.
 Applicable to D≤40 only.
 Applicable to D≤20 only.