

Consulta

De: David Pariser <davidbottassi@hotmail.com>

Assunto: Tolerância para fabricação de flanges

Gostaria de saber se há alguma norma que estabelece tolerância para diâmetro externo (outside diameter) de flanges.

Pergunto isso porque essa semana recebemos dezenas de PSVs de um renomado fabricante de válvulas com o diâmetro externo muito maior do que estabelecido pela ANSI B16.5 porém não temos argumentação técnica com relação a tolerância de fabricação para o diâmetro externo de um flange comum.

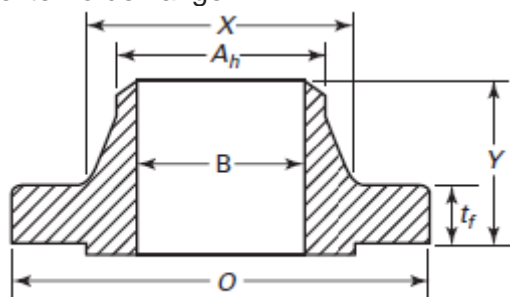
Existe alguma outra norma que estabeleça alguma restrição a esse dimensional?

Agradeço desde já a atenção.

Um abraço!

Resposta

A norma ASME B16.5-Pipe Flanges and Flanged Fittings NPS 1/2 Through NPS 24 no item 7 TOLERANCES não tem nenhuma orientação quanto à tolerância do diâmetro externo de flange.



Welding Neck

Conferi nas *interpretations* e realmente não há tolerância para esta dimensão, segue cópia do material que consegui.

ASME B16.5 Pipe Flanges and Flanged Fittings

Published Interpretations

Interpretation: 2-10 Subject: Outside Diameter Tolerance Date Issued: **July 3, 1990**

Question (1): Does B16.5-1988 have any requirements for tolerances on flange outside diameters?

Reply (1): No.

Question (2): Why not?

Reply (2): The ASME B16 Committee does not respond to questions about rational for requirements.

Interpretation: 1-19 Subject: Section 7, Tolerances Date Issued: **August 2, 1983**

Question (2): What are the tolerances on the outside diameter (O dimension) and base of hub diameter (X dimension) or flanges?

Reply (2): There is no specified tolerance for either the outside diameter (O dimension) or the base of hub diameter (X dimension) of flanges.

O; outside diameter of flange

Interpretation: 1-14 Subject: Section 7, Tolerances Date Issued: **June 16, 1983**

Question: Does ANSI B16.5 have a tolerance on either the outside diameter or flanges or the height of the raised face of flanges?

Reply: No. The Committee will give consideration to placing a tolerance on these dimensions. Any changes will appear in a future addenda or edition.

Consultando alguns fabricantes de flanges, todos apresentam uma tolerância para o diâmetro externo de flange.
Segue o exemplo da CONFORJA.

Fique com Deus.

TOLERÂNCIAS FLANGES: SOBREPOSTOS, ROSCADOS, SOLTOS E CEGOS Tolerances for Flanges: Slip-On, Threaded, Blind		
DIÂMETRO EXTERNO Outside Diameter	25" e menor and less	$\pm 1/16'' = 1,6\text{mm}$
	2" e maior and larger	$\pm 1/8'' = 3,2\text{mm}$
DIÂMETRO INTERNO Inside Diameter	Flanges sobreposto e soltos Flanges Slip-On, Lap-Joint	
	10" e menor and smaller	$+ 1/32'' - 0''$ $+ 0,8\text{mm} - 0\text{mm}$
	12" e maior and larger	$+ 1/16'' - 0''$ $+ 1,6\text{mm} - 0\text{mm}$
	Flanges roscados Threaded Flange	Tolerância conforme calibres para roscas
DIÂMETRO DO ENCAIXE NA ROSCA Socket Diameter at the point of Thread	10" e menor and smaller	$+ 1/32'' - 0''$ $+ 0,8\text{mm} - 0\text{mm}$
	12" e maior and larger	$+ 1/16'' - 0''$ $+ 1,6\text{mm} - 0\text{mm}$
DIÂMETRO DO RESSALTO Diameter of the Contact Face	Rebordo 1/16" = 1,6mm raised face	$\pm 1/32'' = 0,8\text{mm}$
	Rebordo 1/8" = 3,2mm raised face	$\pm 0,02'' = 0,5\text{mm}$
	Macho duplo e canal Tongue and Groove	$\pm 0,02'' = 0,5\text{mm}$
	Macho e fêmea Male and Female	$\pm 0,02'' = 0,5\text{mm}$
DIÂMETRO DO PESCOÇO EXTERNO Outside Diameter of Hub	12" e menor and smaller	$+ 3/32'' - 1/16''$ $+ 2,4\text{mm} - 1,6\text{mm}$
	14" e maior and larger	$\pm 1/8'' = 3,2\text{mm}$
FURAÇÃO Drilling	Circulo Bolt-circle	$\pm 1/16'' = 1,6\text{mm}$
	Distância entre furos Bolt hole spacing	$\pm 0,02'' = 0,5\text{mm}$
	Excentricidade do eixo do rebordo Base face central. Eccentricity of Bolt- circle and facing with respect to bore	$\leq 2,1/2'' - 0,03'' - 0,8\text{mm}$ $\leq 3'' - 0,06'' - 1,6\text{mm}$
ALTURA TOTAL Overall Height	18" e menor and smaller	$+ 1/8'' - 1/32''$ $+ 3,2\text{mm} - 0,8\text{mm}$
	20" e maior and larger	$\pm 3/16'' - 1/16''$ $+ 4,8\text{mm} - 1,6\text{mm}$
ESPESSURA Thickness	18" e menor and smaller	$+ 1/8'' - 0''$ $+ 3,2\text{mm} - 0\text{mm}$
	20" e maior and larger	$+ 3/16'' - 0''$ $+ 4,8\text{mm} - 0\text{mm}$

TOLERÂNCIAS FLANGES COM PESCOÇO Tolerances for Welding Neck Flanges		
DIÂMETRO EXTERNO Outside Diameter	25" e maior and smaller	$\pm 1/16'' = 1,6\text{mm}$
	20" e maior and larger	$\pm 1/8'' = 3,2\text{mm}$
DIÂMETRO INTERNO Inside Diameter	10" e menor and smaller	$\pm 1/32'' = 0,8\text{mm}$
	12" a 18" 12" to 18"	$\pm 1/16'' = 1,6\text{mm}$
DIÂMETRO DO RESSALTO Diameter of Contact Face	25" e maior and larger	$\pm 1/8'' = 3,2\text{mm}$ $\pm 3,2\text{mm} - 1,6\text{mm}$
	Rebordo 1/16" = 1,6mm raised face	$\pm 1/32'' = 0,8\text{mm}$
	Rebordo 1/4" = 6,35mm raised face	$\pm 0,02'' = 0,5\text{mm}$
	Macho duplo e canal Tongue and Groove	$\pm 0,02'' = 0,5\text{mm}$
DIÂMETRO DO PESCOÇO NO LOCAL DA SOLDA Diameter of Hub at the point of welding	Macho e fêmea Male and Female	$\pm 0,02'' = 0,5\text{mm}$
	5" e menor and smaller	$+ 3/32'' - 1/32''$ $+ 2,4\text{mm} - 0,8\text{mm}$
DIÂMETRO DO PESCOÇO NA BASE Diameter of Hub at base	5" e maior and larger	$+ 3/32'' - 1/32''$ $+ 4\text{mm} - 0,8\text{mm}$
	Diâm. na base 24" = 609,6mm e maior Diameter at base 24" and smaller	$\pm 1/16'' = 1,6\text{mm}$
FURAÇÃO Drilling	Diâm. na base solma de 24" = 609,6mm Diameter at base large flange 24"	$\pm 1/8'' = 3,2\text{mm}$
	Circulo Bolt circle	$\pm 1/16'' = 1,6\text{mm}$
	Distância entre furos Bolt hole spacing	$\pm 1/32'' = 0,8\text{mm}$
LARGURA DA FACE PLANA PARA SOLDA Width of Land	Excentricidade do circulo do rebordo Base face central Eccentricity of Bolt- circle and facing with respect to bore	$\leq 2,1/2'' - 1/32'' - 0,8\text{mm}$ $\leq 3'' - 1/16'' - 1,6\text{mm}$
	Todos os tampos for all sizes	$\pm 1/32'' = 0,8\text{mm}$
ÂNGULO DO BISELAMENTO Angle of Bevel	Todos os tampos for all sizes	$\pm 2^\circ - 30^\circ$
	ALTURA TOTAL Overall Height	10" e menor and smaller
ESPESSURA Thickness	12" e maior and larger	$\pm 1/8'' = 3,2\text{mm}$
	18" e menor and smaller	$+ 1/8'' - 0$ $+ 3,2\text{mm} - 0\text{mm}$
ESPESSURA Thickness	20" e maior and larger	$+ 3/16'' - 0''$ $+ 4,8\text{mm} - 0\text{mm}$