

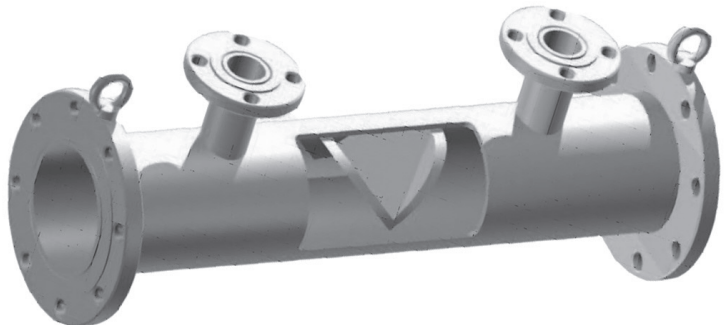
# Wedge meter

Model : F770

Spec. sheet no. FD07-04

## Description

The flow element consists of a body and wedge flow restriction. This restriction creates a differential pressure in proportion to the square of the volumetric flow rate. The wedge restriction has no critical surface dimensions, or sharp edges, that will affect measurement accuracy as the result of normally expected wear.



## Advantages

- Bi-directional flow
- High accuracy  $\pm 0.5\%$  of actual flow rate
- Low Reynolds number measurement,  $Rd500$
- Minimum upstream and downstream pipe measurement

## Specification

### Measuring fluid

Liquid, Gas and Steam

### Material

304SS, 316SS, 316L SS and Carbon steel  
Special materials are available

### Pipe size

0.5" ~ 24"

### Wedge element standard H/D ratios

0.2, 0.3, 0.4, 0.5, 0.6 and 0.7

### Accuracy

- Calibrated
  - 1" or larger :  $\pm 0.5\%$  of actual flow when operated within the calibrated range
  - 0.5" :  $\pm 0.75\%$  of actual flow when operated within the calibrated range
- Uncalibrated :
  - $\pm 5\%$  of actual flow when using nominal  $K_d^2$  from sizing program. Applies to bi-directional flow
- Bi-directional :
  - Same as above when  $K_d^2$  designated as reverse flow coefficient

### Repeatability

$\pm 0.2\%$

### Rangeability

10:1

**1. Base model****F770** Wedge meter**2. DP connection**

- 1** Chemical tee
- 2** ANSI 2"
- 3** ANSI 3"
- 4** ANSI 4"
- 5** Other

**3. Line size**

<b>01</b>	½"	<b>10</b>	6"
<b>02</b>	¾"	<b>11</b>	8"
<b>03</b>	1"	<b>12</b>	10"
<b>04</b>	1½"	<b>13</b>	12"
<b>05</b>	2"	<b>14</b>	14"
<b>06</b>	2½"	<b>15</b>	16"
<b>07</b>	3"	<b>16</b>	18"
<b>08</b>	4"	<b>17</b>	20"
<b>09</b>	5"	<b>18</b>	24"

**4. Flange rating**

<b>01</b>	ANSI 150 Lb SORF	<b>07</b>	ANSI 600 Lb WNRF
<b>02</b>	ANSI 300 Lb SORF	<b>08</b>	ANSI 900 Lb WNRF
<b>03</b>	ANSI 600 Lb SORF	<b>09</b>	ANSI 600 Lb WNRTJ
<b>04</b>	ANSI 900 Lb SORF	<b>10</b>	ANSI 900 Lb WNRTJ
<b>05</b>	ANSI 150 Lb WNRF	<b>11</b>	Other
<b>06</b>	ANSI 300 Lb WNRF		

**5. Material**

- A** Carbon steel
- B** 304SS
- C** 316SS
- D** 316L SS
- E** Other

**6. Calibration**

- A** Water calibration
- B** None

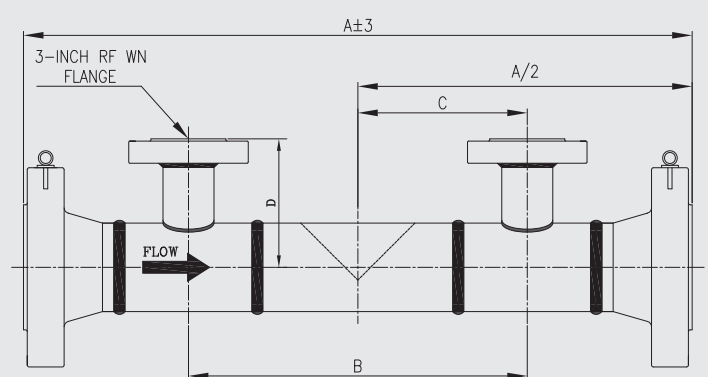
**7. Option**

- O** Other
- N** None

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>F770</b>	<b>1</b>	<b>05</b>	<b>05</b>	<b>B</b>	<b>A</b>	<b>O</b>

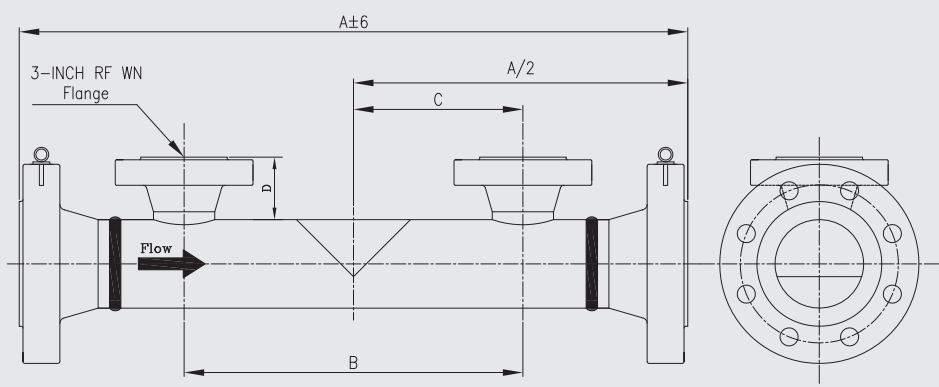
Sample ordering code

RF WN – Wedge dimensions and weights



Size 1-1/2", 2" and 3"

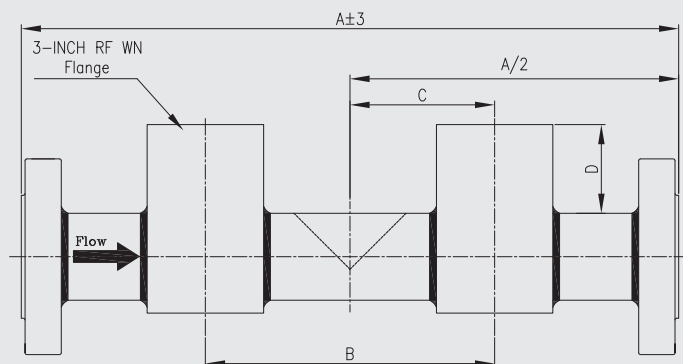
Pipe Size	A(mm)			B (mm)	C (mm)	D(mm)			Approximate weight LBS		
	Flange rating					Flange rating			Flange rating		
	150Lb	300Lb	600Lb			150Lb	300Lb	600Lb	150Lb	300Lb	600Lb
1-1/2"	530	540	560	292	146	208	214	212	55	61	71
2"	550	560	580	292	146	216	222	231	62	70	84
3"	620	640	660	312	156	156	166	175	78	92	102



Size 4" ~ 24"

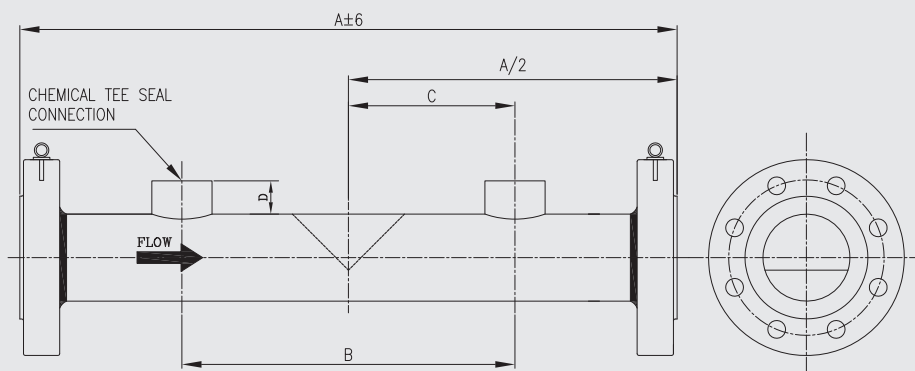
Pipe size	A (mm)	B (mm)	C (mm)	D(mm)			Approximate weight LBS		
				Flange rating			Flange rating		
				150Lb	300Lb	600Lb	150Lb	300Lb	600Lb
4"	760	380	190	62.9	79.2	89	85	105	130
6"	860	460	230	62.9	79.2	89	105	155	215
8"	920	520	260	62.9	79.2	89	140	205	320
10"	970	600	300	62.9	79.2	89	205	265	460
12"	1120	670	335	62.9	79.2	89	275	380	
14"	1170	710	355	62.9	79.2	89	345	505	
16"	1250	780	390	62.9	79.2	89	460	570	
18"	1320	850	425	62.9	79.2	89	510	760	
20"	1420	940	470	62.9	79.2	89	595	905	
24"	1570	1070	535	62.9	79.2	89	825	1015	

# RF SO – Wedge dimensions and weights



Size 1/2" ~ 3"

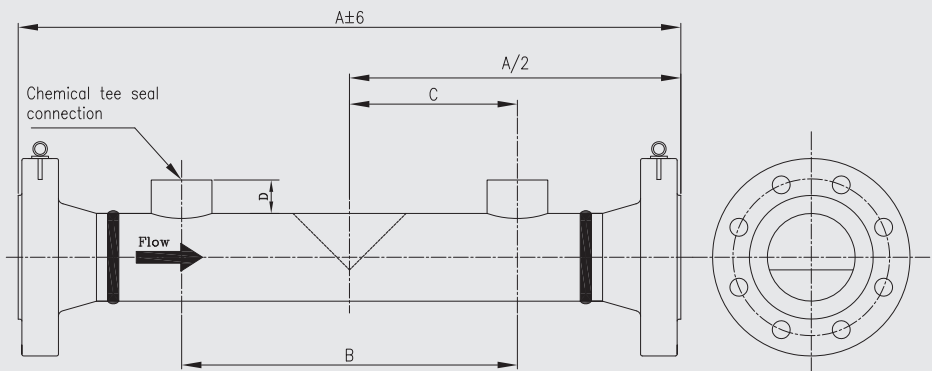
Pipe size	A (mm)	B (mm)	C (mm)	D (mm)	Approximate weight LBS		
					Flange rating		
					150Lb	300Lb	600Lb
1/2"	460	166	83	25.4	23	23	23
1"	480	180	90	38.1	26	29	30
1-1/2"	510	204	102	47.2	43	49	51
2"	530	212	106	57.1	51	55	59
3"	610	264	132	69.9	69	79	84



Size 4" ~ 24"

Pipe size	A (mm)	B (mm)	C (mm)	D (mm)	Approximate weight LBS		
					Flange rating		
					150Lb	300Lb	600Lb
4"	760	380	190	45	70	90	115
6"	860	460	230	45	90	140	185
8"	920	520	260	45	125	180	270
10"	970	600	300	45	180	250	420
12"	1120	670	335	45	260	365	
14"	1170	710	355	45	330	480	
16"	1250	780	390	45	445	545	
18"	1320	850	425	45	495	725	
20"	1420	940	470	45	580	880	
24"	1570	1070	535	45	810	985	

RF WN – Wedge dimensions and weights



Size 4" ~ 24"

Pipe size	A(mm)			B (mm)	C (mm)	D (mm)	Approximate weight LBS		
	Flange rating						Flange rating		
	150lb	300Lb	600Lb				150lb	300Lb	600Lb
4"	900	920	960	380	190	45	65	75	110
6"	1030	1050	1100	460	230	45	90	130	195
8"	1090	1110	1170	520	260	45	115	175	285
10"	1140	1170	1260	600	300	45	165	280	450
12"	1320	1350	1420	670	335	45	235	380	
14"	1400	1430	1490	710	355	45	310	625	
16"	1470	1510	1590	780	390	45	410	640	
18"	1570	1610	1680	850	425	45	500	810	
20"	1690	1720	1790	940	470	45	630	1005	
24"	1860	1890	1970	1070	535	45	870	1190	

