ZipTENSIONER
F61-10-32MM-10K Stud Tensioner

Wind Turbine Tensioners

The **F61-10-32MM-10K** Stud Tensioner is designed to tension 34MM Williams #10 Grade 75 Bar foundation bolts on wind turbine towers.

The piston area of the tensioner is 8.68 square inches. This area provides a maximum tension of 86,800 pounds at 10,000 PSI hydraulic pressure. The tensioner has a 1 inch stroke, therefore, full elongation of the foundation bolts is accomplished with just one pull.

When the bolt is pulled into tension, the nut rotator is turned with a tommy bar to turn the service nut down and lock the bolt in tension.

The **F61-10-32MM-10K** utilizes a puller bar, which is threaded down on the foundation bolt. This allows the **F61-10-32MM-10K** to be used on foundation bolts with at least 7-1/2 inches protruding above the foundation.

Pump Pressure PSI	Tensioner Load Foot Pounds
1,000	8,680
2,000	17,360
3,000	26,040
4,000	34,720
5,000	43,400
6,000	52,080
7,000	60,760
8,000	69,440
9,000	78,120
10,000	86,800

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ZipTENSIONER
F61-11-35MM-10K Stud Tensioner

Wind Turbine Tensioners

The **F61-11-35MM-10K** Stud Tensioner is designed to tension 35MM Williams #11 Grade 75 Bar foundation bolts on wind turbine towers.

The piston area of the tensioner is 9.988 square inches. This area provides a maximum tension of 99,880 pounds at 10,000 PSI hydraulic pressure. The tensioner has a one inch stroke, therefore, full elongation of the foundation bolts is accomplished with just two pulls.

When the bolt is pulled into tension, the nut rotator is turned with a tommy bar to turn the service nut down and lock the bolt in tension.

The tensioner is double acting, so the piston is returned hydraulically.

The **F61-11-35MM-10K** utilizes a puller bar, which is threaded down on the foundation bolt. This allows the **F61-11-35MM-10K** to be used on foundation bolts with at least 9 inches protruding above the foundation.

Pump Pressure PSI	Tensioner Load Foot Pounds
1,000	9,988
2,000	19,976
3,000	29,964
4,000	39,952
5,000	49,940
6,000	59,928
7,000	69,916
8,000	79,904
9,000	89,892
10,000	99,880

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ZipTENSIONER
F71-11-36MM-10K Stud Tensioner

Wind Turbine Tensioners

The **F71-11-36MM-10K** Stud Tensioner is designed to tension 36MM Williams #11 Grade 150 Bar foundation bolts on wind turbine towers.

The piston area of the tensioner is 14.018 square inches. This area provides a maximum tension of 134,573 pounds at 9,600 PSI hydraulic pressure. The tensioner has a .5 inch stroke, therefore, full elongation of the foundation bolts is accomplished with just two pulls.

When the bolt is pulled into tension, the nut rotator is turned with a tommy bar to turn the service nut down and lock the bolt in tension.

The **F71-11-36MM-10K** utilizes a puller bar, which is threaded down on the foundation bolt. This allows the **F71-11-36MM-10K** to be used on foundation bolts with a minimum of 9 inches protruding above the foundation.

Pump Pressure PSI	Tensioner Load Foot Pounds
1,000	14,018
2,000	28,036
3,000	42,054
4,000	56,072
5,000	70,090
6,000	84,108
7,000	98,126
8,000	112,144
9,000	126,162
10,000	134,573

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ZipTENSIONER
DZF61-10-32MM-10K Double Zip® Stud Tensioner

Wind Turbine Tensioners

The Model **DZF61-10-32MM-10K** Stud Tensioner is designed to tension foundation bolts on wind turbine towers. The Double-Zip Nut mechanism allows the tensioner to slide down over the foundation bolts without rotating a retaining nut. When the tensioner piston is extended, the Double-ZipNut mechanism automatically engages the foundation bolt and pulls it into tension.

The piston area of the tensioner is 8.68 square inches. This area provides a maximum tension of 86,800 pounds at 10,000 PSI hydraulic pressure. The tensioner has a one inch stroke, therefore, full elongation of the foundation bolts is accomplished with just one pull.

When the bolt is pulled into tension, the nut rotator is turned with a tommy bar to turn the service nut down and lock the bolt in tension. The tensioner is double-acting, so the piston is returned hydraulically. The Double- Zip Nut mechanism is automatically released when the piston is returned. The **DZF61-10-32MM-10K** requires the foundation bolt to extend a minimum of 10-½" above the foundation.

Pump Pressure PSI	Tensioner Load Foot Pounds
1,000	8,680
2,000	17,360
3,000	26,040
4,000	34,720
5,000	43,400
6,000	52,080
7,000	60,760
8,000	69,440
9,000	78,120
10,000	86,800

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ZipTENSIONER
DZF61-11-35MM-10K Stud Tensioner

Wind Turbine Tensioners

The **DZF61-11-35MM-10K** Stud Tensioner is designed to tension 35MM Williams #11 Grade 75 Bar foundation bolts on wind turbine towers.

The piston area of the tensioner is 9.988 square inches. This area provides a maximum tension of 99,880 pounds at 10,000 PSI hydraulic pressure. The tensioner has a one inch stroke, therefore, full elongation of the foundation bolts is accomplished with just two pulls.

When the bolt is pulled into tension, the nut rotator is turned with a tommy bar to turn the service nut down and lock the bolt in tension.

The tensioner is double acting, so the piston is returned hydraulically.

The **DZF61-11-35MM-10K** utilizes a puller bar, which is threaded down on the foundation bolt. This allows the **DZF61-11-35MM-10K** to be used on foundation bolts with at least 12-1/2" inches protruding above the foundation.

Pump Pressure PSI	Tensioner Load Foot Pounds
1,000	9,988
2,000	19,976
3,000	29,964
4,000	39,952
5,000	49,940
6,000	59,928
7,000	69,916
8,000	79,904
9,000	89,892
10,000	99,880

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ZipTENSIONER
DZF71-11-36MM-10K Stud Tensioner

Wind Turbine Tensioners

The **DZF71-11-36MM-10K** Stud Tensioner is designed to tension 36MM Williams #11 Grade 150 Bar foundation bolts on wind turbine towers.

The piston area of the tensioner is 14.018 square inches. This area provides a maximum tension of 134,573 pounds at 9,600 PSI hydraulic pressure. The tensioner has a 7/8 inch stroke, therefore, full elongation of the foundation bolts is accomplished with just two pulls.

When the bolt is pulled into tension, the nut rotator is turned with a tommy bar to turn the service nut down and lock the bolt in tension.

The **DZF71-11-36MM-10K** utilizes a puller bar, which is threaded down on the foundation bolt. This allows the **DZF71-11-36MM-10K** to be used on foundation bolts with a minimum of 11 inches protruding above the foundation.

Pump Pressure PSI	Tensioner Load Foot Pounds
1,000	14,018
2,000	28,036
3,000	42,054
4,000	56,072
5,000	70,090
6,000	84,108
7,000	98,126
8,000	112,144
9,000	126,162
10,000	134,573

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