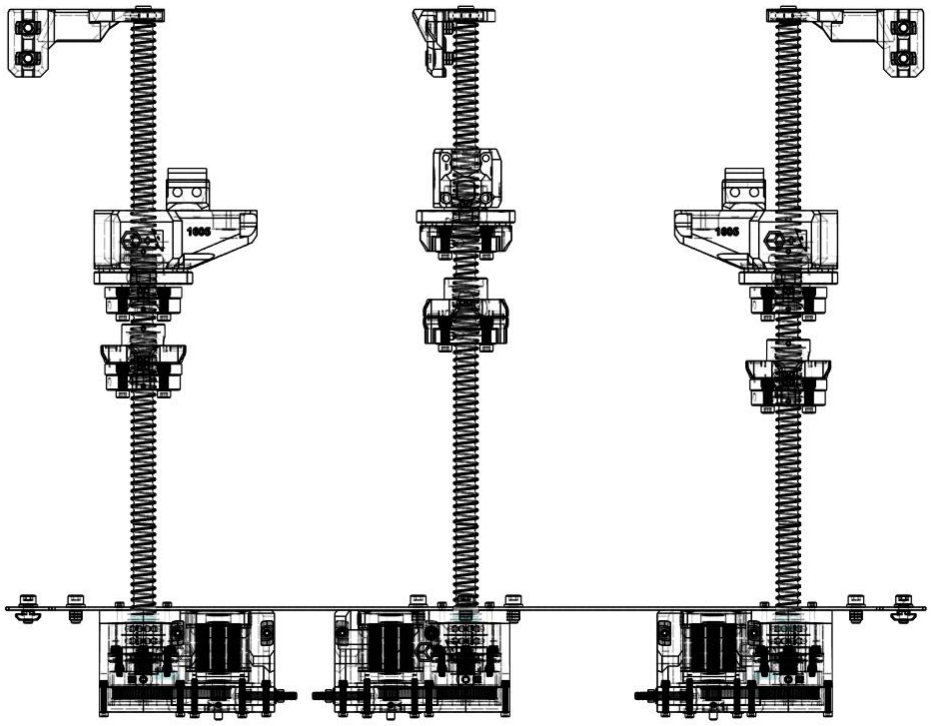
GUIDE : Z-Upgrade 3.2c variants

Suivi des évolutions

Indice	Date	Description de l'évolution	Auteur
0.0	24/03/2024	Création	FBR



1 Objective

The Goal her is to review all ACTIVE variants of the BRS-ENGINEERING Z-Upgrade 3.2C variants to pick the one made to best fits your needs:

KEEP IN MIND THAT ALL Z-UPGRADE 3.2C VARIANTS ARE COMPATIBLE FOR ANY V-CORE 4.0 MACHINE. THIS DOCUMENT EXPLAINS YOU HOW TO WISELY CHOOSE THE BEST FOR YOUR SCENARIO.

2 Variant Lists

Variant	Released	Made for
Z-UPGRADE 3.2C	30/04/24	VCORE 4.0 (CoreXY/Hybrid) 300/400/500
Z-UPGRADE 3.2C-Reinforced arms	21/01/25	VCORE 4.0 (CoreXY/Hybrid) 300/400/500/++ with Custom heavy cast bed
Z-UPGRADE 3.2C-H	17/03/25	VCORE 4.0 (CoreXY/Hybrid) 300/400/500/++ with a taller Z volume AND/OR Custom heavy cast bed

3 Ballscrews size

	Z-UPGRADE 3.2C	Z-UPGRADE 3.2C-Reinforced arms	Z-UPGRADE 3.2C-H
SFU1204	YES	NO	NO
SFU1605	YES	YES	YES

What size should I take?

Ballscrew type	diameter (mm)	Pitch	Pros	Cons
SFU1204	12	4	“Lighter” then 1605 Nut less wide 95% of the time sufficient to handle loads	Can be hard to find at correct prices after 1000mm (Selfsource)
SFU1605	16	5	Very stiff and straight for long Z height Can support insane weights Easily found for long size and priced correctly	Heavy

There is no “performances” differences on the print quality between each SFUs type, BRS-Engineering originally offer both to meet the availability on the market, and 1605 add some insane possibility for very big or specific machines.

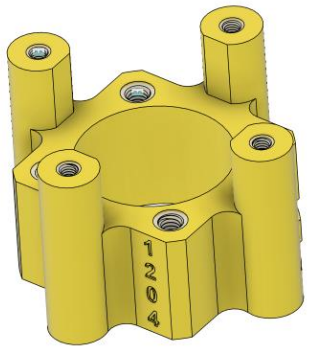
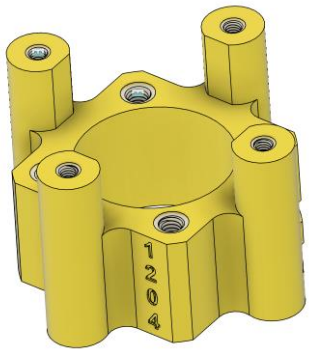
4 WOBBLEX or BRS-Oldham V3

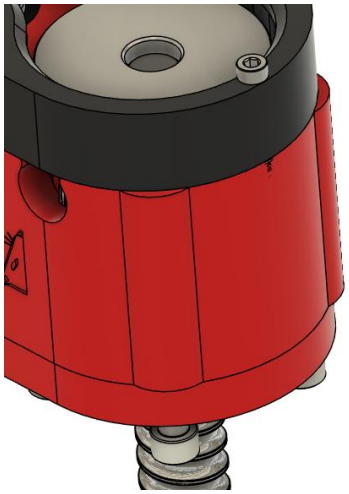
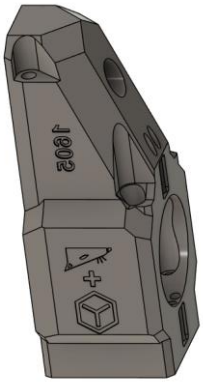
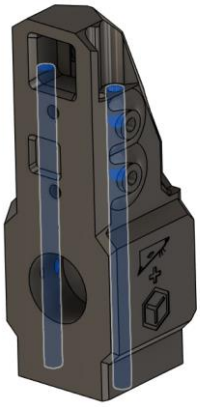
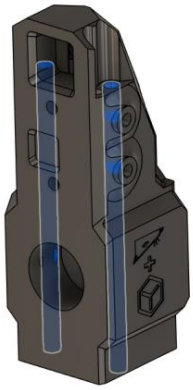
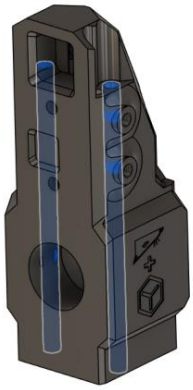
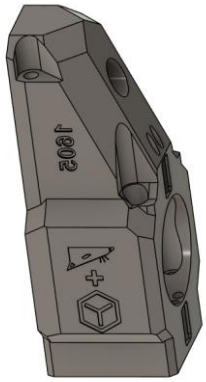
	Pros	Cons
WobbleX	Low-profile (few mm gained on Z) Accept heavy load	Expensive
BRS-Oldham V3	Cheaper on price	Can’t handle the same weight than WobbleX Few mm thicker (No Z loss compared to the Stock VC4)

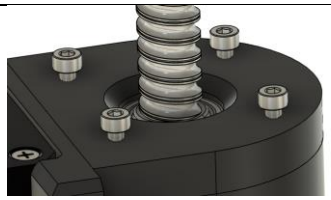
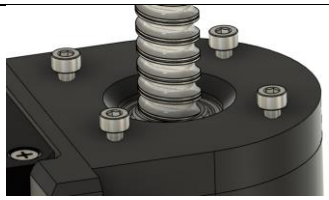
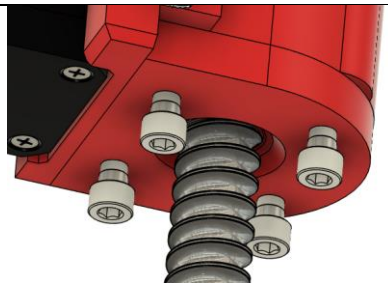
5 General comparisons

Overall, all variants/editions share the same principle and the same base

The 3.2C (base) will be reference here

Keys differences	Z-UPGRADE 3.2C	Z-UPGRADE 3.2C-Reinforced arms	Z-UPGRADE 3.2C-H
StarLock design	 Classic version with M3 inserts (1605-1204)	 Classic version with M3 inserts (1605 only)	 Withstands more weight (1605 only)
Ballscrews Type	SFU1204 or 1605	SFU1605	SFU1605

Body type	 3.2C common	 3.2C common	 H Revision, slighly enlarged for the bogger StarLock
Arms Type	3.2C arms OR Reinforced Arms with 2x 100mm steel rods 5if SFU1605)  	Reinforced Arms with 2x 100mm steel rods 	Either 3.2C arms OR Reinforced Arms with 2x 100mm steel rods  

Mounting	 M3	 M3	 M5
Decouplers	 Oldham  WS12  WS16	 Oldham  WS16	 WS16

6 Decision tree :