



CATIA Interoperability Project Office
IBM Frankfurt, Germany

Projet 07 : V4/V5 2D Migration V4/V5 2D Standard Mapping Original Version 12/2002 Version 07 (V5R16), Update 09/2005

IBM



Product Lifecycle Management Solutions

[1. Introduction](#)

This document is based on the V4 and V5 integration tests carried out in CATIA Interoperability Project Office (CIPO) for CATIA V4/V5, IBM Frankfurt. To fully understand this document the CATIA specialist requires knowledge of CATIA V4 product and Global understanding of V5.

The fundamental information that is presented in the CATIA Online Documentation is a premise for the use of this paper. In case of any specific application related topics please consult the specialist in that area. The tests will be continued carried out with the arrival of new customer models and also every time the software requirements are changing.

Version 04 enhancements are shown on a blue text

[2. Used Hardware and Software for Testing](#)

All the tests in this Document has been performed using the following Hardware and Software:

Hardware:

- UNIX: RS/6000 – 44P170 with GXT 6000 P
- 1,5 GB Memory
- NT: IntelliStation M-Pro FireGL3 Graphics Adapter

Software:

- UNIX
 - AIX 4.3.3
 - CATIA 4.2.4 R2
 - CATIA V5.9 SP1/SP2/SP3
- NT
 - Microsoft NT V4 SP3
 - CATIA V5.9 SP1/SP2/SP3.

[3. Object](#)

During a 2D conversion V4 to V5, V4 annotations and V4 dimensions are migrated in V5 with the same property as V4 or according the V5 2D standard defined in a *.XML file.

V4 2D standard defined in the V4 project file can not be converted as a *.XML file.

This document was created to help V4 customers to set all V5 parameters in this file before starting 2D migration. "As_Result" or "As_Spec..

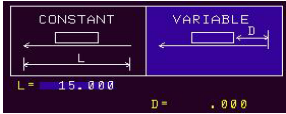
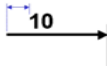
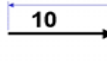
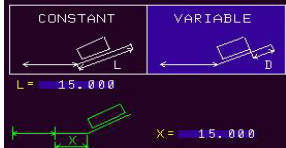
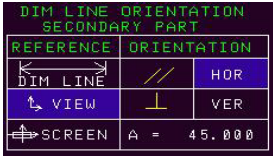

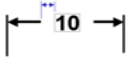

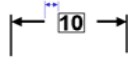
[4. V4/V5 standard mapping](#)






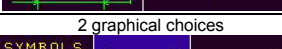











[4.2 Dimensions & texts properties](#)

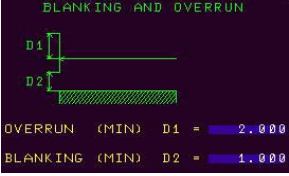
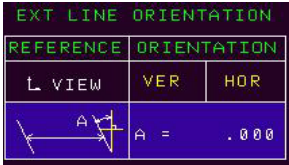

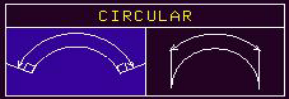

Thiese following tables describe for all V4 parameters of DIMENS2 and TEXTD2 :

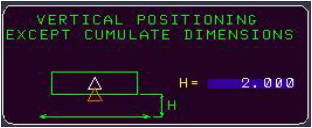
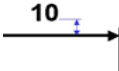
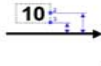

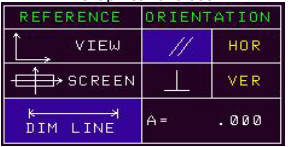
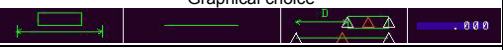
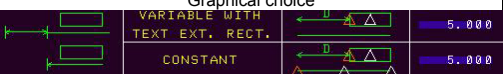
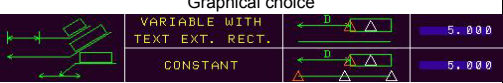
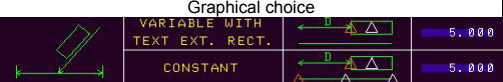
- the equivalent V5 standard parameter to set if it's existing (column V5)
- the V4 to V5 result (same as V5 standard hard coded, same as V5 standard parameter, same as V4 properties, as graphical element)







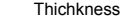
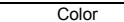
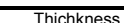
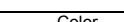



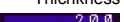

| V4 | | V5 | | | | V4->V5 |
|-------------------------------------|-------------------------------|------------------------|----------------|---------------------|-------------|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/PARAMS/ CURRENT STANDARD | ISO ; ANSI ; DIN ; JIS ; ASME | International Standard | ParentStandard | [ISO/ANSI/JIS/ASME] | | V5 standard to define with equivalent settings |







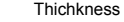
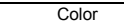
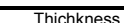
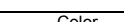



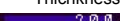

| V4 | | V5 | | | | V4->V5 |
|--|--|--|--|--|---|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ PARAMS/ DIM LINE/ ONE-PART | 2 graphical choices  | Dimension line length for one-symbol dimensions (distance and angle) | DIMLUnderLine | [2/1] 2=Length relative to value 1 Constant length | The dimension line may either have a given length, or automatically adjust to reach the dimension value | Same as V5 standard Permanent link to the V5 standard |
| | D (mm) | | Hard coded (constant length) | (mm) |  | Same as hard coded |
| | L (mm) | | DIMLConstantLength (if DIMLUnderLine=1) | (mm) |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ PARAMS/ DIM LINE/ TWO-PART | 2 graphical choices  | No specific standard parameter (Same as DIMLUnderline) | | | | Same as V5 standard Permanent link to the V5 standard |
| | D (mm) | NHard coded (constant length) | | | | Same as hard coded |
| | L (mm) | No specific standard parameter (Same as DIMLConstantLength) | | | | Same as V5 standard Permanent link to the V5 standard |
| | X (mm) | No default value in V5 Hard-coded default value in V5 | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ PARAMS/ DIM LINE/ ORIENTATION | Graphic choices  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ PARAMS/ DIM-LINE/ DIM LINE GAP | G (mm)  | Dimension line gap around unframed value | DIMLTextGap | (mm) |  | Same as V5 standard Permanent link to the V5 standard |
| | G (mm)  | Dimension line gap around framed value | DIMLFrameGap | (mm) |  | Same as V5 standard Permanent link to the V5 standard |

| V4 | | V5 | | | | V4->V5 |
|---|--|---|----------------------------|--|---|---|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/PARAMS/ DIM-LINE/ DIM LINE OVERRUN | D (mm)  | Dimension line display and extent (for non-flipped symbols) | DIMLNoFlippedOverrun | (mm) |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/PARAMS/ DIM-LINE/ DIM LINE DISPLAY | 2 graphical choices  | | DIMLShowNoReverse | [2/1] 2 = displayed 1 = not displayed | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/PARAMS/ DIM-LINE/ DIM LINE OVERRUN | D (mm)  | Dimension line display and extent (for flipped symbols) | DIMLFlippedOverrun | (mm) |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/PARAMS/ DIM-LINE/ DIM LINE DISPLAY | 2 graphical choices  | | DIMLShowReverse | [2/1] 2 = displayed 1 = not displayed | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ PARAMS/ DIM LINE/ RADIUS DIM/ INTERNAL DIM | 2 graphical choices  | Extension of dimension line on radius dimensions (value inside circle) | DIMLRadiusIntReachCenter | [2/1] 2 = till center 1 = till value |  | Up to V5R9 Same as V5 standard Permanent link to the V5 standard V5R10 and later releases New property on each dimension Same as V4 property Optional link to V5 standard |
| DIMENS2/ PARAMS/ DIM LINE/ RADIUS DIM/ EXTERNAL DIM | 2 graphical choices  | Extension of dimension line on radius (value outside circle) | DIMLRadiusExtReachCenter | [2/1] 2 = till center 1 = Constant overrun |  | Up to V5R9 Same as V5 standard Permanent link to the V5 standard V5R10 and later releases New property on each dimension Same as V4 property Optional link to V5 standard |
| | D (mm)  | | DIMLRadiusExtLength | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ PARAMS/ DIM LINE/ DIAMETER DIM/ INTERNAL DIM | 2 graphical choices  | Extension of dimension line on diameters dimensions (value inside circle) | DIMLDiameterIntReachCenter | [2/1] 2 = till center 1 = till value |  | Up to V5R9 Same as V5 standard Permanent link to the V5 standard V5R10 and later releases New property on each dimension Same as V4 property Optional link to V5 standard |
| | D (mm)  | | DIMLDiameterIntOverrun | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ PARAMS/ DIM LINE/ DIAMETER DIM/ EXTERNAL DIM | 2 graphical choices  | Extension of dimension line on diameter (value outside circle) | DIMLDiameterExtReachCenter | [2/1] 2 = till center 1 = Constant overrun |  | Up to V5R9 Same as V5 standard Permanent link to the V5 standard V5R10 and later releases New property on each dimension Same as V4 property Optional link to V5 standard |
| | D (mm)  | | DIMLDiameterExtLength | (mm) | | Same as V5 standard Permanent link to the V5 standard |



| V4 | | V5 | | | | V4->V5 |
|---|---|--|----------|----------------|-------------|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ PARAMS/ EXT-LINE/ BLANKING AND OVERRUN |  <p>D1 (mm)</p> <p>D2 (mm)</p> | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ PARAMS/ EXT-LINE/ ORIENTATION | <p>Graphic choices</p>  | V5 Property | | | | Same as V4 property No link with the V5 standard <u>Restriction</u> "Angle relative to view" option not supported in V5 (only "angle relative to extension line" available) |
| DIMENS2/ PARAMS/ EXT-LINE/ LENGHT DIMENSION | <p>2 graphic choices</p>  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | <p>2 graphic choices</p>  | V5 semantic dimension type not implemented | | | | As graphical element |
| | <p>3 graphic choices</p>  | Not implemented | | | | As a graphical element |

| V4 | | V5 | | | | V4->V5 |
|---|--|--|--------------|-------------------------------|---|---|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ PARAMS/ DIM TEXT/ VERTICAL POSITIONNING | Position  | Vertical spacing between dimension value and dimension line | DIMTYPos | (mm) |  | Up to V5R9 Same as V5 standard Permanent link to the V5 standard V5R10 and later releases New property on each dimension, initialized from V5 standard value Same as V4 property No permanent link to V5 standard. |
| | H(mm) | Vertical anchor point | DIMTxtJustif | [2/3] 2=center 3=bottom |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ PARAMS/ DIM TEXT/ MASKING DIMENSION TEXT | 2 graphical choices  | New V5 mode : Dimension line masked by default (opposite representation) | | | | Same as V4 Standard. Can not be modify |
| DIMENS2/ PARAMS/ DIM TEXT/ ORIENTATION | Graphical choices  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ PARAMS/ DIM TEXT/ HORIZONTAL POSITIONNING (1/2) | Graphical choice  | Parameters not implemented in V5 standard | | | | Same as V4 Standard. Can not be modified |
| | D (mm) | Parameters not implemented in V5 standard | | | | Same as V4 Standard. Can not be modified |
| | Graphical choice  | Parameters not implemented in V5 standard | | | | Same as V4 Standard. Can not be modified |
| | D (mm) | Parameters not implemented in V5 standard | | | | Same as V4 Standard. Can not be modified |
| DIMENS2/ PARAMS/ DIM TEXT/ HORIZONTAL POSITIONNING (2/2) | Graphical choice  | Parameters not implemented in V5 standard | | | | Same as V4 Standard. Can not be modified |
| | D (mm) | Parameters not implemented in V5 standard | | | | Same as V4 Standard. Can not be modified |
| | Graphical choice  | Parameters not implemented in V5 standard | | | | Same as V4 Standard. Can not be modified |
| | D (mm) | Parameters not implemented in V5 standard | | | | Same as V4 Standard. Can not be modified |

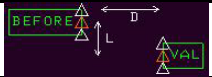

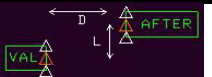
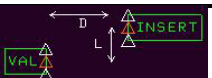
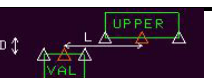
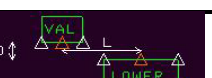
| V4 | | V5 | | | V4->V5 | |
|---|--|---|----------|----------------|-------------|---|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/PARAMS/ GRAPHIC/ DISPLAY FOR EACH DIMENSION | 3 graphical choices  | <u>Up to V5R8</u> Hard coded "show text " value <u>V5R9 and later releases</u> V5 property | | | | <u>Up to V5R8</u> Hard coded "show text " value <u>V5R9 and later releases</u> Same as V4 property No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ WRITTING DIRECTION | 2 graphical choices  | Hard coded (Left to right) | | | | Hard coded value |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ DIM-LINE | Thichkness  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | Color  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ EXT-LINE | Thichkness  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | Color  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ SYMBOL | Thichkness  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | Color  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ TEXT | Thichkness  | V5 Property | | | | Same as V5 Text Font thickness No link with the V5 standard |
| | Color  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ FRAME | Thichkness  | V5 Property Not implemented - Hard coded thickness index =1 | | | | Hard coded (thickness index=1) No link with the V5 standard |
| | Color  | V5 Property Not implemented - Same Property as dimension value text | | | | Property identical to dimension value text's property. No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ SCORE | Thichkness  | V5 Property Not implemented - Hard coded thickness index =1 | | | | Hard coded (thickness index=1) No link with the V5 standard |
| | Color  | V5 Property Not implemented - Same Property as dimension value text | | | | Property identical to dimension value text's property. No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ SCALE | 2 graphical choices  | V5 Property Not implemented - Hard coded "Free" value | | | | Same as hard code : Free |

| V4 | | V5 | | | V4->V5 | |
|---|--|---|----------|----------------|-------------|---|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/PARAMS/ GRAPHIC/ DISPLAY FOR EACH DIMENSION | 3 graphical choices  | Up to V5R8 Hard coded "show text " value V5R9 and later releases V5 property | | | | Up to V5R8 Hard coded "show text " value V5R9 and later releases Same as V4 property No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ WRITTING DIRECTION | 2 graphical choices  | Hard coded (Left to right) | | | | Hard coded value |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ DIM-LINE | Thickness  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | Color  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ EXT-LINE | Thickness  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | Color  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ SYMBOL | Thickness  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | Color  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ TEXT | Thickness  | V5 Property | | | | Same as V5 Text Font thickness No link with the V5 standard |
| | Color  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ FRAME | Thickness  | V5 Property Not implemented - Hard coded thickness index =1 | | | | Hard coded (thickness index=1) No link with the V5 standard |
| | Color  | V5 Property Not implemented - Same Property as dimension value text | | | | Property identical to dimension value text's property. No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ DIMENSION COMPONENTS/ SCORE | Thickness  | V5 Property Not implemented - Hard coded thickness index =1 | | | | Hard coded (thickness index=1) No link with the V5 standard |
| | Color  | V5 Property Not implemented - Same Property as dimension value text | | | | Property identical to dimension value text's property. No link with the V5 standard |
| DIMENS2/PARAMS/ GRAPHIC/ SCALE | 2 graphical choices  | V5 Property Not implemented - Hard coded "Free" value | | | | Same as hard code : Free |





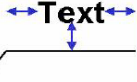



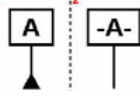
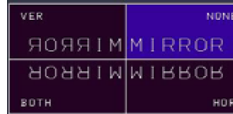
FRAME





| V4 | | V5 | | | | V4->V5 |
|--|--|-------------|----------|----------------|-------------|---|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ PARAMS/ FRAME/ DIMENSION | 3 graphic choices (except 2 measures chamfer)  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ PARAMS/ FRAME/ DUAL DIMENSION | 4 graphic choices  | V5 Property | | | | Same as V4 property No link with the V5 standard |

| V4 | | | | V5 | | | | V4->V5 |
|--|---------------------------|-------|--|-------------|----------|----------------|-------------|------------------------------|
| Designation | Description/default value | | | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ PARAMS/ PREFIX/DISTANCE | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |
| DIMENS2/ PARAMS/ PREFIX/LENGHT | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |
| DIMENS2/ PARAMS/ PREFIX/ANGLE | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |
| DIMENS2/ PARAMS/ PREFIX/DIAMETER | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |
| DIMENS2/ PARAMS/ PREFIX/RADIUS | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |
| DIMENS2/ PARAMS/ PREFIX/CHAMFER | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |
| DIMENS2/PARAMS/ PREFIX/DIAMETER CONE | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |
| DIMENS2/PARAMS/ PREFIX/RADIUS SPHERE | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |
| DIMENS2/PARAMS/ PREFIX/DIAMETER SPHERE | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |
| DIMENS2/ PARAMS/ PREFIX/SLOPE | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |
| DIMENS2/PARAMS/ PREFIX/CONICAL TAPER | NONE | | | V5 Property | | | | Same as V4 property |
| | PREF | 1.000 | | | | | | No link with the V5 standard |
| | SUFF | | | Hard coded | | | | Hard coded |

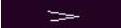




| V4 | | V5 | | | V4->V5 | |
|--|--|--|-----------------------|-------------------------------|--|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ PARAMS/ TEXT/ BEFORE |  | Point to be used on the associated text as a reference for positioning | ASTBeforePosReference | 7=top 8=center 9=bottom |  reference for positioning for Before/After/Insert texts for Upper/Lower texts | Same as V5 standard Permanent link to the V5 standard |
| | D (mm) | Horizontal offset for positioning | ASTBeforeXDist | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| | L (mm) | Vertical offset for positioning | ASTBeforeYDist | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ PARAMS/ TEXT/ AFTER |  | Point to be used on the associated text as a reference for positioning | ASTAfterPosReference | 1=top 2=center 3=bottom | | Same as V5 standard Permanent link to the V5 standard |
| | D (mm) | Horizontal offset for positioning | ASTAfterXDist | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| | L (mm) | Vertical offset for positioning | ASTAfterYDist | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ PARAMS/ TEXT/ INSERT |  | Point to be used on the associated text as a reference for positioning | ASTInsertPosReference | 1=top 2=center 3=bottom | | Same as V5 standard Permanent link to the V5 standard |
| | D (mm) | Horizontal offset for positioning | ASTInserXDist | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| | L (mm) | Vertical offset for positioning | ASTInserYDist | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ PARAMS/ TEXT/ UPPER |  | Point to be used on the associated text as a reference for positioning | ASTUpperPosReference | 1=left 4=center 7=right | | Same as V5 standard Permanent link to the V5 standard |
| | D (mm) | Horizontal offset for positioning | ASTUpperXDist | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| | L (mm) | Vertical offset for positioning | ASTBUpperYDist | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ PARAMS/ TEXT/ LOWER |  | Point to be used on the associated text as a reference for positioning | ASTLowerPosReference | 3=left 6=center 9=right | | Same as V5 standard Permanent link to the V5 standard |
| | D (mm) | Horizontal offset for positioning | ASTLowerXDist | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| | L (mm) | Vertical offset for positioning | ASTLowerYDist | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| TEXTD2/ GRAPH/ DISPLAY | 2 graphical choices <div><div>NONE</div><div>TEXT</div><div></div></div> | V5 Property | | | | Same as V4 property No link with the V5 standard |

TEXT





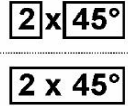

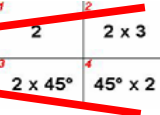

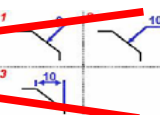
| V4 | | V5 | | | | V4->V5 |
|--|--|--|--|--|---|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| TEXTD2/ GRAPH/ SCALE | 2 graphical choices  | <u>Text, Welding symbol, + R10 GD&T, Balloon</u> V5 Property <u>DatumFeature, Datum Target, Roughness symbol</u> Hard coded (Free) | | | | <u>Text, Welding symbol, + R10 GD&T, Balloon</u> Same as V4 property <u>DatumFeature, Datum Target, Roughness symbol</u> Hard coded (Free) |
| TEXTD2/ GRAPH/ WRITING RULES |  | <u>Text, Welding symbol, + R10 GD&T, Balloon</u> V5 Property <u>DatumFeature, Datum Target, Roughness symbol</u> Standard TXTAngleAllowed parameter (described below) | | | | <u>Text, Welding symbol, + R10 GD&T, Balloon</u> Same as V4 property <u>DatumFeature, Datum Target, Roughness symbol</u> Permanent link to the V5 standard |
| | | Text angle | TXTAngleAllowed | [1/2] 1=0 to 360 degrees 2=-90 to 90 degrees |  | |
| TEXTD2/ LEADER/ LEADER-TEXT POSITIONNING AND DISTANCES |  Justification | Hard coded (bottom point) | | | | Hard coded (bottom point) |
| | A(mm) | V5 standard parameters exist for texts and roughness symbols on R10 (Before R10, positioning for texts was hard-coded) | TXTLeaderLeftTail for roughness | (mm) |  | Same as V5 standard Permanent link to the V5 standard |
| | B(mm) | | TXTLeaderRightTail for roughness | (mm) | | |
| | L (mm) | | 1) TXTLeaderVertSpace for roughness. 2) LeaderVerSpace for V5 texts | (mm) | | |
| TEXTD2/ LEADER/ GAP |  C(mm) | | 1) TXTLeaderGap for roughness. 2) LeaderGap for Texts | (mm) |  | |
| TEXTD2/ GRAPH/ WRITING RULES | 2 graphical choices  | Text angle | TXTDatumMode | [1/2] 1=normal 2=flag |  | Same as V5 standard Permanent link to the V5 standard <u>Restriction</u> This parameter only has an effect for standards whose ParentStandard is ASME or ANSI |
| TEXTD2/ MIRROR/ | 2 graphical choices  | V5 Property for texts and balloons Hard coded for other annotation types | | | | Same as V4 property for Text/balloon, and hard coded for others No link with the V5 standard |
| | | Text thickness (for compatibility with V4) | TXTThickness | (mm) | | Same as V4 property No link with the V5 standard |

| V4 | | V5 | | | | V4->V5 |
|---|--|--|---------------|----------------|---|---|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ SCORE/ SINGLE DIMENSION | 3 graphical choices  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ SCORE/ DUAL DIMENSION | 3 graphical choices  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ SCORE/ POSITIONNING & TEXTD2/ ABC |  | Size of dimension value underline.No Equivalency for V5 Text | SCORLeftTail | (mm) |  | <u>Dimension scoring</u> Same as V5 standard Permanent link to the V5 standard <u>Other elements</u> Hard coded |
| | D1 (mm) | | SCORRightTail | (mm) | | |
| | D2 (mm) | | SCORVertSpace | (mm) | | |
| | H (mm) | | | | | |

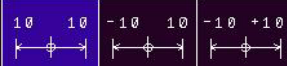
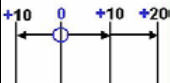




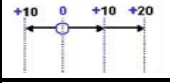

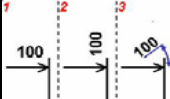
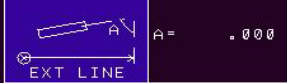

LEADER

| V4 | | V5 | | | | V4->V5 |
|--|--|--|----------|----------------|-------------|---|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ PARAMS/ LEADER/ LEADER SYMBOL | Symbol  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | Scale  | Hard coded (=1.0) | | | | Same as hard code : scale=1.0 |
| DIMENS2/ PARAMS/ LEADER/ LEADER LENGTH | 2 graphical choices  | Hard coded (overrun depends on value extent) | | | | Same as hard coded |
| | L1(15 mm) si (L1 CONSTANT) | Not implemented | | | | |
| | L2 (15 mm) | Hard coded (constant length) | | | | Same as hard coded |
| DIMENS2/ PARAMS/ LEADER/ LEADER ORIENTATION | A(60 degrees)  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | Graphical choices  | Hard coded (angle is relative to dimension line) | | | | Same as hard coded |


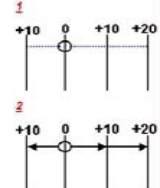
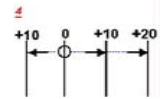
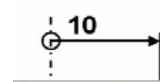
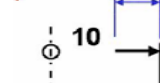
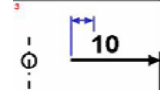
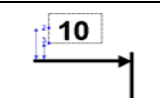
CHAMFER

| V4 | | V5 | | | | V4->V5 |
|---|--|---|--|---------------------------------------|---|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ PARAMS/ CHAMFER/ IF 2 MEASURES |  | Hard coded ("X" separator) | | | | Same as hard coded |
| |  | Chamfer separator font height | CHFSepHeight | (mm) |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ PARAMS/ CHAMFER/ ENTITY TO BE FRAMED | 2 graphical choices  | Chamfer value framing | CHFFrameGroup | [1/2] 1=separately 2=as a whole |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ Option | 3 graphical choices  | Chamfer dimension mode (Not Implemented in standard) | This parameter in standard has no effect - it is overridden by each dimension property | |  | Same as V4 property No link with the V5 standard |
| DIMENS2/ Option | 2 graphical choices  | Chamfer dimension representation (Not Implemented in standard) | CHFRepModeDist (If CHFMeasureMode=1) CHFRepModeDistDist (If CHFMeasureMode=3) CHFRepModeAngleDist (If CHFMeasureMode=4) | [1/2/3] 3=2symbols |  | Same as V4 property No link with the V5 standard |


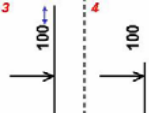
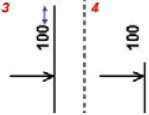


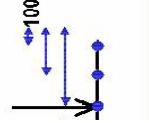
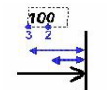
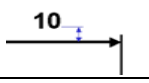
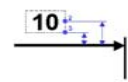
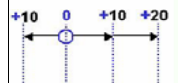
CUMULATE

| V4 | | V5 | | | | V4->V5 |
|---|---|----------------------------------|--------------------------------------|--|---|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ CUMULATE/ VALUE SIGN DISPLAY |  | Cumulate dimensions sign display | CUMLSignDisplay | [1/2/3] 1=no sign 3=positive sign on all value |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ CUMULATE/ ORIGIN |  | Origin symbol shape | CUMLOriginSymbol | [0/.../13] 0=none 1-13=refer to "dimension line symbols" table | | Same as V5 standard Permanent link to the V5 standard |
| |  | Origin symbol size scale | CUMLSymbolScale | (real) | | Same as V5 standard Permanent link to the V5 standard |
| |  | Extension line display | CUMLExtLDisplay | [2/1] 2=display 1=no display | <div>Documentation V5R9 is wrong only origine extension line is impacted by this parameter.</div> | Same as V5 standard Permanent link to the V5 standard |
| |  | Display of origin zero | CUMLZeroDisplay | [2/1] 2=display 1=no display |  | Same as V5 standard Permanent link to the V5 standard |
| | | | | | | |
| DIMENS2/ CUMULATE/ DIM TEXT ORIENTATION REFERENCE |  | Value orientation reference | CUMLTxtReference | [1/2] 1=dimension line 2=extension line |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ CUMULATE/ DIM TEXT ORIENTATION |  | Value orientation | CUMLTxtOrient | [1/2/3] 1=parallel 2=perpendicular 3=angle |  | Same as V5 standard Permanent link to the V5 standard |
| | A (mm) | | CUMLTxtAngle (if CUMLTxtOrient=3) | (degrees) | | Same as V5 standard Permanent link to the V5 standard |


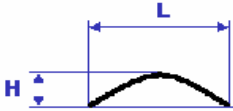



CUMULATE

| V4 | | V5 | | | V4->V5 |
|-----------------------------------|--|--------------------------|---|--|---|
| Designation | Description/default value | Designation | Variable | Standard value | Result |
| DIMENS2/ CUMULATE/ DIM LINE |  | Dimension representation | CUMLDimLDisplay | [1/2/4] 1=no display 3=full display 4=partial display |  Same as V5 standard Permanent link to the V5 standard |
| | L(mm) | Dimension line length | CUMLDimLLength (if CUMLTxtReference=2 & CUMLDimLDisplay=3) | (mm) |  Same as V5 standard Permanent link to the V5 standard |
| | V4 parameter name exits : - Length depends on text ext. rectl. - Length constant <i>up to origine</i> - Length constant | Dimension line mode | CUMLDimLinMode (if CUMLTxtReference=1) | [2/3/4] 2=from origin 3=constant 4=overrun text box |   Same as V5 standard Permanent link to the V5 standard |
| | V4 parameter name exits : - See "X" in the Dim line window" | Dimension line overrun | CUMLDimLinTail (if CUMLTxtReference=1 & CUMLDimLinMode=4) | (mm) |  Same as V5 standard Permanent link to the V5 standard |
| | V4 parameter name exits : - See "Horizontal positioning / vertical positioning in the dim line window" | Value positioning | CUMLTxtVJusti1 (if CUMLTxtReference=1) | 1=Edge 2= Center |  Same as V5 standard Permanent link to the V5 standard |

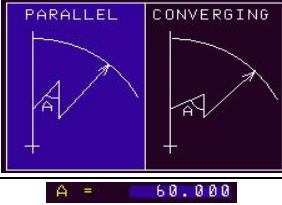
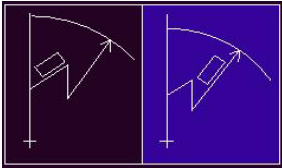
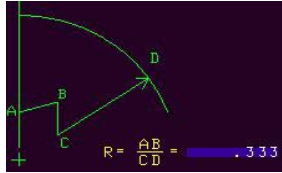


CUMULATE

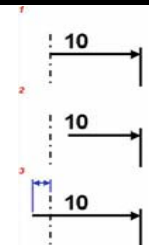
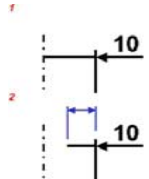
| V4 | | V5 | | | | V4->V5 |
|-----------------------------------|---|---|---------------------------------------|---|---|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ CUMULATE/ EXT LINE |  | Cumulate dimension extension line mode | CUMLExtMode | [3/4] 3=relative to text box 4=constant |  | Same as V5 standard Permanent link to the V5 standard |
| | X(mm) | Cumulate dimension extension line length | CUMLExtLOver (if CUMLExtMode=3) | (mm) |  | Same as V5 standard Permanent link to the V5 standard |
| | L(mm) | | CUMLExtLLength (if CUMLExtMode=4) | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| | D(mm) | Cumulate dimension extension text position | CUMLExtLTxtVPos (if CUMLExtMode=4) | (mm) |  | Same as V5 standard Permanent link to the V5 standard |
| | D(mm) | | CUMLExtLTxtVPos (if CUMLExtMode=3) | (mm) |  | Same as V5 standard Permanent link to the V5 standard |
| | No standard parameter | | CUMLExtLTxtRef (if CUMLExtMode=3) | Not yet implemented |  | Same as V5 standard Permanent link to the V5 standard |
| | No standard parameter | | CUMLExtVJust1 (if CUMLExtMode=3) | Not yet implemented | | |
| | No standard parameter | | CUMLExtVJust2 (if CUMLExtMode=4) | Not yet implemented | | |
| | No standard parameter | | CUMLExtHJusti | [2/3] 2=center 3=right |  | Same as V5 standard Permanent link to the V5 standard |
| | No standard parameter | Distance between dimension and dimension line | V5 Property | (mm) |  | Same as V4 property No link with the V5 standard |
| | No standard parameter | Dimension vertical justification | CUMLExtVJust | [2/3] 2=center 3=bottom |  | Same as V5 standard Permanent link to the V5 standard |
| | No standard parameter | Extension line display | CUMLExtLDisplay | [2/1] 2=display 1=no display |  | Same as V5 standard Permanent link to the V5 standard |

ARC LENGTH

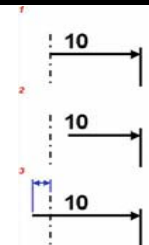

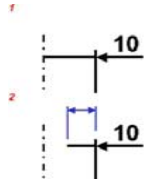

| V4 | | V5 | | | | V4->V5 |
|---|---|--|----------|----------------|---|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ ARC_LENGTH/ SYMBOL DISPLAY | 2 graphical choices <div><div>YES</div><div>NO</div></div> | Display Symbol | | | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ ARC_LENGTH/ HEIGHT | (mm)  | Height | | |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ ARC_LENGTH/ SPACING |  HEIGHT H = 1.000 SPACING S = 1.000 | Spacing | | |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ ARC_LENGTH/ LENGTH | <div><div>LENGTH</div><div>CONSTANT L = 3.000</div><div>DEPENDS ON L MIN= 3.000</div><div>VALUE EXT. REC. L MAX= 10.000</div></div> | Length - Minimum Length - Maximum Length | | |  | Same as V5 standard Permanent link to the V5 standard |

FORESHORTENED



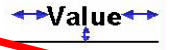
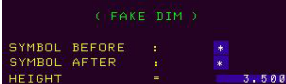
| V4 | | V5 | | | | V4->V5 |
|--|--|-------------------------|----------|----------------|-------------|---|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ FORESHORTENED/ SEGMENT ORIENTATION | 2 graphical choices  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| | | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ FORESHORTENED/ TEXT POSITION | 2 graphical choices  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ FORESHORTENED/ BREAK POSITION | R  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ FORESHORTENED/ ORIGIN | Symbol  | Hard coded ("X" symbol) | | | | Same as hard coded |
| | Scale  | V5 Property | | | | Same as V4 property No link with the V5 standard |





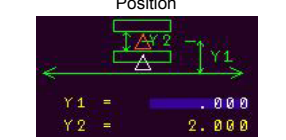
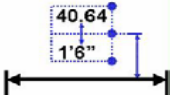
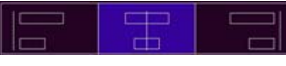

| V4 | | V5 | | | | V4->V5 |
|--------------------------------------|---------------------------|--|---|--|---|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ HALF-DIM/ INSIDE DIM | 3 graphical choices | Half-dimension dimension line extent (if value is inside) | HLFIntOverrunMode | [1/2/3] 1=till axis 2=under value 3=over axis |  | Same as V5 standard Permanent link to the V5 standard |
| | D (mm) | | | | | |
| | | | HLFIntOverrun (If HLFIntOverrunMode=3) | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ HALF-DIM/ OUTSIDE DIM | 3 graphical choices | Half-dimension dimension line extent (if value is outside) | HLFExtOverrunMode | [1/2] 1=till axis 2=constant overrun |  | Same as V5 standard Permanent link to the V5 standard |
| | L (mm) | | | | | |
| | | | HLFExtOverrun (If HLFExtOverrunMode=2) | (mm) | | Same as V5 standard Permanent link to the V5 standard |

HALF-DIM





| V4 | | V5 | | | | V4->V5 |
|--------------------------------------|---|--|---|--|---|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ HALF-DIM/ INSIDE DIM | 3 graphical choices | Half-dimension dimension line extent (if value is inside) | HLFIntOverrunMode | [1/2/3] 1=till axis 2=under value 3=over axis |  | Same as V5 standard Permanent link to the V5 standard |
| |  | | | | | |
| | D (mm) | | HLFIntOverrun (If HLFIntOverrunMode=3) | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ HALF-DIM/ OUTSIDE DIM | 3 graphical choices | Half-dimension dimension line extent (if value is outside) | HLFExtOverrunMode | [1/2] 1=till axis 2=constant overrun |  | Same as V5 standard Permanent link to the V5 standard |
| |  | | | | | |
| | L (mm) | | HLFExtOverrun (If HLFExtOverrunMode=2) | (mm) | | Same as V5 standard Permanent link to the V5 standard |

FAKE DIM


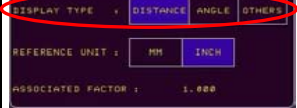
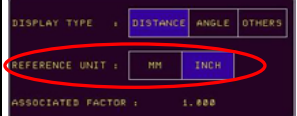

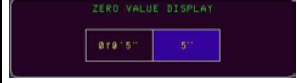


| V4 | | V5 | | | | V4->V5 |
|---------------------------------------|--|---|---|---|---|-------------------|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ FAKE/ FAKE_DIM SYMBOLS |  | Fake dimension value display | FAKIdentifyMode | [1/2/3] 1=underline 2=parenthesis 3=none | Not implemented. It is managed on each dimension in Edit properties) | Same as Hard code |
| DIMENS2/ FAKE/ FAKE_DIM |  X(mm) | | FAKUnderlineTail FAKVerticalOffset (If FAKIdentifyMode=1) | (mm) |  | |
| DIMENS2/ FAKE/ (FAKE_DIM) |  | Hard coded (no character) (the * character is only a default value for Edit/Property panel) | | | | Same as Hard code |

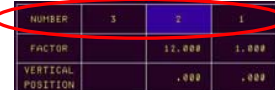
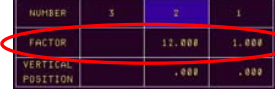
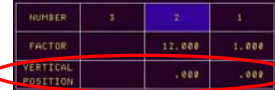
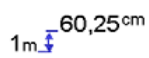
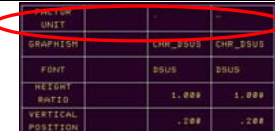


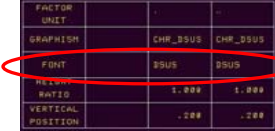
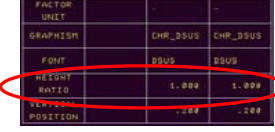

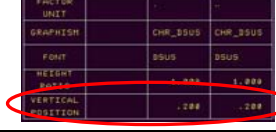

| V4 | | V5 | | | | V4->V5 |
|------------------------------------|--|---|------------------|--|--|--|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/ DUAL/ DIM_TYPE |  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ DUAL/ SIDE BY SIDE |  | Hard code | | | | Same as hard code : sign = "/" |
| | H (mm) | Dual dimension separator height for side-by-side dual display | DUASideSepHeight | (mm) |  | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ DUAL/ FRACTION LINE |  | V5 Property | | | | Same as V4 property No link with the V5 standard |
| DIMENS2/ DUAL/ TOP |  | Dual dimension display for values above-one-another | DUAPosReference | [1/2/3] 1=top 2=center 3=bottom |  | Same as V5 standard Permanent link to the V5 standard |
| | Y1 (mm) | | DUAABoveSpace | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| | Y2 (mm) | | DUAABoveOffset | (mm) | | Same as V5 standard Permanent link to the V5 standard |
| DIMENS2/ DUAL/ JUSTIFICATION |  | | DUAJustification | [1/2/3] 1=left 2=center 3=right |  | Same as V5 standard Permanent link to the V5 standard |
| | | | | | | |



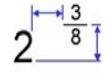

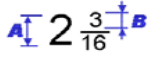


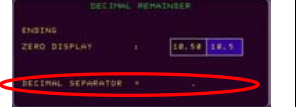
SLOPE





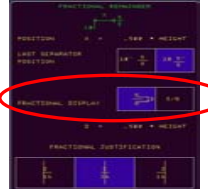
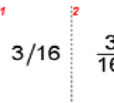
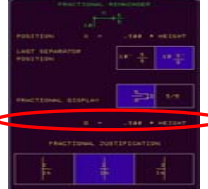
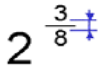

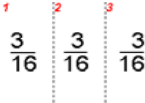
| V4 | | V5 | | | V4->V5 | |
|---|--|---|----------|----------------|-------------|---------------------------------|
| Designation | Description/default value | Designation | Variable | Standard value | Description | Result |
| DIMENS2/SLOPE/ VALUE ORIENTATION | 3 graphical choices  | V5 dimension type not implemented as "semantic" dimension | | | | Migrated as graphical dimension |
| DIMENS2/ SLOPE/ VALUE PRESENTATION | 4 graphical choices  | V5 dimension type not implemented as "semantic" dimension | | | | Migrated as graphical dimension |
| | X(1) si (Choice<>%) | V5 dimension type not implemented as "semantic" dimension | | | | Migrated as graphical dimension |
| | DENOMINATOR PRECISION(1) si (Choice<>%) | V5 dimension type not implemented as "semantic" dimension | | | | Migrated as graphical dimension |
| | VALUE PRECISION(1) si (Choice=%) | V5 dimension type not implemented as "semantic" dimension | | | | Migrated as graphical dimension |
| DIMENS2/ SLOPE/ JUSTIFICATION FOR | 3 graphical choices  | V5 dimension type not implemented as "semantic" dimension | | | | Migrated as graphical dimension |
| DIMENS2/ SLOPE/ CALCULATION MODE | 2 graphical choices  | V5 dimension type not implemented as "semantic" dimension | | | | Migrated as graphical dimension |

4.2 Dimensions : numerical display


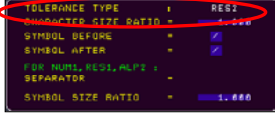

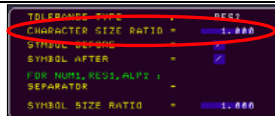

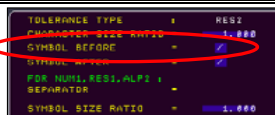
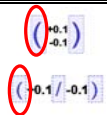
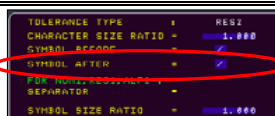
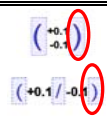
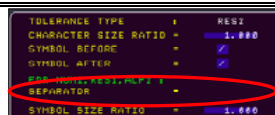
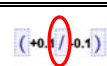
| V4 | | | | V5 | | | |
|--------------------|---|---|--------------------------|--|-------------|--|---|
| DRWSTD category | Description | | Type | V5 Name | Description | Values | Changeable in the properties of each dimension |
| NAME | NUMERICAL DISPLAY User defined name used as the description identifier |  | String. | NDName | | String. | No |
| GENERALITIES | DISPLAY TYPE Type of measure |  | Distance, angle, other | NDType | | [1/2] 1 = Distance, 2 = Angle. | The type of Numerical Display can be changed in the Properties Properties // Format //Description |
| | REFERENCE UNIT Unit used to display the dimension value |  | mm, inch, rad, deg, grad | NDUnit | | [1././5] 1 = mm, 2 = inch, 3 = radian, 4 = degree, 5 = grade. | |
| | ASSOCIATED FACTOR Factor used to multiply the dimension measured value. |  | Real | NDGlobalfact | | Real | |
| ZERO VALUE DISPLAY | Display of null terms and leading zeros. 60,25 cm ===== 0m 60,25cm |  | Zeros displayed or not | NDNullFac_1...3 => To be set for each term in V5! If the value is made of more than one term (up to 3 terms plus a rest): NDNullOther | | [1/2] 1=No display of the zeros, 2=Display of the zeros. | No |
| LAST FACTOR ZERO | Display of null for one term 0.5 ou .5 | | Zeros displayed or not | | | | |
| THOUSAND SEPARATOR | DISPLAY 1 000 or 1,000 or 1.000,.... |  | [YES/NO] | NDExise | | [1/2] 1=No display of separator, 2=Display of separator. | No |
| | SEPARATOR Separator characters for thousands |  | Char: To be defined. | NDSep1000 | | To be defined in the 18 available characters | No |

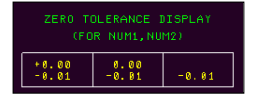
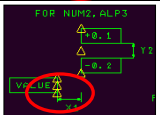
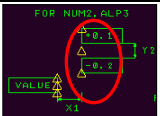

| V4 | | | | V5 | | | |
|-----------------|--|---|-----------------|---|---|-------------------------------------|--|
| DRWSTD category | Description | | Type | V5 Name | Description | Values | Changeable in the properties of each dimension |
| TERMS/ VALUE | NUMBER Number of terms (3 max.) 160, 25 cm or 1m 60,25 cm or 1m 60cm 2.5mm |  | | NDFact | | [1...3] | Yes: Properties // Format // Display |
| | FACTOR To define the factor between 2/3 terms |  | Real. | NDFact_1...3 (for NDUnit=mm, NDGlobFact=1 and NDFact_1=1 and NDFac_2 = 10.) | | Real. | No |
| | VERTICAL POSITION Alignment |  | Measure (in mm) | NDValPos1...3 |  | Measure (in mm) | No |
| TERMS/ UNIT | FACTOR UNIT |  | String. | NDSepar_1...3 |  | String. | No |
| | GRAPHISM |  | String. | HARD CODED | | | |
| | FONT |  | String. | HARD CODED | | | |
| | HEIGHT RATIO |  | Real | NDSepScI_1...3 |  | Real (ratio to the value height) | No |
| | VERTICAL POSITION |  | (mm) | NDSepPos_1...3 |  | Measure (in mm) | No |

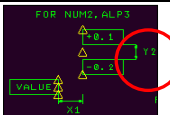
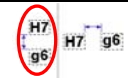
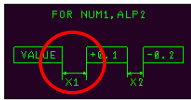
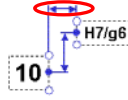
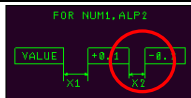
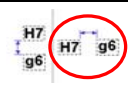
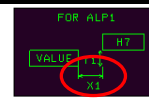
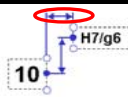
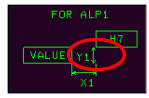
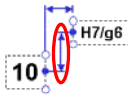
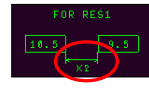
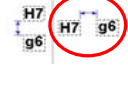

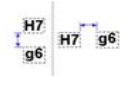
| V4 | | | | V5 | | | |
|----------------------------------|--|---|----------------------|---|---|---|----|
| DRWSTD category | Description | Type | V5 Name | Description | Values | Changeable in the properties of each dimension | |
| DECIMAL OR FRACTIONNAL REMAINDER | POSITION Y Decimal Rest Positionning vertical Offset |  | | HARD CODED | | No | |
| | POSITION Y Fractionnal Rest Positionning vertical Offset |  | Real | NDRestY |  | Real | No |
| | REMAINDER HEIGHT Height of the remainder |  | Real | NDResScl (Fractionnal Rest Height Ratio) |  | Real | No |
| | ZERO VALUE DISPLAY Way to display the 0 10.00 or 10 |  | | HARD CODED | | No | |
| DECIMAL REMAINDER | ZERO DISPLAY Display of trailing zeros |  | [YES/NO] | If the value is made of one term: NDFinZer | ¹ 60,25 cm ² 60,250 cm | [1/2] 1 = No display of trailing zeros, 2 = Display of trailing zeros (number of digits specified in the value position). | No |
| | DECIMAL SEPARATOR Separator character for decimal 6,25 or 6.25 or... |  | Char: To be defined. | NDSepNum | | To be defined in the 18 available characters | No |

| V4 | | | | V5 | | | |
|-----------------------|---|---|---------------------------------------|--------------|---|--|--|
| DRWSTD category | Description | | Type | V5 Name | Description | Values | Changeable in the properties of each dimension |
| FRACTIONNAL REMAINDER | POSITION X Fractionnal rest Positionning horizontal Value |  | | NDRestX |  | Real | No |
| | LAST SEPARATOR POSITION Position of last term Unit. |  | before or after the fractionnal rest. | NDSepDen |  | [1/2] 1 = Before fractionnal rest, 2 = After fractionnal rest. | No |
| | FRACTION DISPLAY Fractionnal rest Display Mode |  | Side by side or super-imposed. | NDTypFrac |  | [1/2] 1 = Side by side, 2 = Super-imposed. | No |
| | D Offset between Fractionnal Rest Numerator and denominator |  | real (ratio to the character height) | NDOperY |  | Real | No |
| | FRACTIONNAL REMAINDER |  | Left, center or right. | NDAAlignFrac |  | [1/2/3] 1 = Left, 2 = Center, 3 = Right, | No |

4.3 Dimensions : Tolerancing

| V4 | | | | V5 | | |
|----------------------|---|--|---|--|---|---|
| DRWSTD category | Description | | Type | V5 Name | Description | Values |
| TOLERANCE NAME | User defined name used as the description identifier |  | String. | TolName | | String (8 characters). |
| TOLERANCE TYPE | Define the tolerance format |  | To be chosen in the proposed table | TolType |  | [1/.../7] 1 => NUM1, 2 => NUM2, 3 => RES1, 4 => RES2, 5 => ALP1, 6 => ALP3, 7 => ALP2. |
| CHARACTER SIZE RATIO | |  | Real | TolScale |  | Real |
| SYMBOL BEFORE | Separator for Tolerances (before the value) |  | Char to be chosen in the proposed table | TOLSepar_1 and TolSepTo1 for NUM1, RES1 and ALP2 |  | To be defined in the characted table. |
| SYMBOL AFTER | Separator for Tolerances (after the value) |  | Char to be chosen in the proposed table | TOLSepar_2 and TolSepTo3 for NUM1, RES1 and ALP2 |  | To be defined in the characted table. |
| SEPARATOR | Separator between the 2 values (For NUM1, RES1, ALP2) |  | Char to be chosen in the proposed table | TolSepTo_2 |  | To be defined in the characted table. |

| V4 | | | | V5 | | |
|-------------------------------|---|---|--|--------------|---|---|
| DRWSTD category | Description | | Type | V5 Name | Description | Values |
| SYMBOL | Separator Character size (Ratio between Separator Character and value text font sizes) (For NUM1, RES1, ALP2) |  | Real | TolSymbolH |  | Real |
| IDENTICAL VALUE DISPLAY | FOR NUM1, NUM2 Display of identical tolerance Values |  | Choice 1 or 2 | TolMergeSame |  | 1 = Display common value, 2 = Display separate values. |
| | FOR ALP3 Fraction line on super-imposed tolerances |  | Choice 1 or 2 | TolFracLine |  | YES or NO |
| ENDING ZERO DISPLAY | FOR NUM1, NUM2, RES1, RES2 Display of tolerances trailing zeros |  | To be chosen in one of the 3 proposals | TolTrailing |  | 0 = Display of the 0, 1 = No display of the 0, 2 = Same display as dimension |
| ZERO TOLERANCE DISPLAY | FOR NUM1, NUM2 Display of null tolerance values |  | To be chosen in one of the 3 proposals | TolShowNull |  | 1 = Display of the 0 with sign, 2 = Display of the 0 without sign, 3 = No display of the 0. |
| POSITIONNING (FOR NUM2, ALP3) | X1 Offset between dimension value and tolerance |  | Ratio of the height | TolExtX |  | (mm) |
| | Tolerance Position anchor Point (for offset computing) |  | Reference point to be chosen | TolPtOnValue |  | 7 = Top, 8 = Middle, 9 = Bottom |
| | Tolerance Position anchor Point (for offset computing) |  | Reference point to be chosen | TolAnchorPT |  | 1 = Top, 2 = Middle, 3 = Bottom |
| | Y1 Offset between dimension value and tolerance |  | Ratio of the height | TolExtY |  | (mm) |

| V4 | | | V5 | | | |
|----------------------------------|--|---|---------------------|-------------|---|------|
| DRWSTD category | Description | Type | V5 Name | Description | Values | |
| | Y2 Offset between the 2 tolerance values |  | Ratio of the height | TolIntY |  | (mm) |
| POSITIONNING (FOR NUM1, ALP2) | X1 Offset between dimension value and tolerance |  | Ratio of the height | TolExtX |  | (mm) |
| | X2 Offset between the 2 tolerance values |  | Ratio of the height | TolIntX |  | (mm) |
| POSITIONNING (FOR NUM1, ALP1) | X1 Offset between dimension value and tolerance |  | Ratio of the height | TolExtX |  | (mm) |
| | Y1 Offset between the 2 tolerance values |  | Ratio of the height | TolExtY |  | (mm) |
| POSITIONNING (FOR RES1) | X2 Offset between the 2 tolerance values |  | Ratio of the height | TolIntX |  | (mm) |
| POSITIONNING (FOR RES2) | Y2 Offset between the 2 tolerance values |  | Ratio of the height | TolIntY |  | (mm) |