Package hvfloat Rotating and scaling of objects and captions ver 2.12a

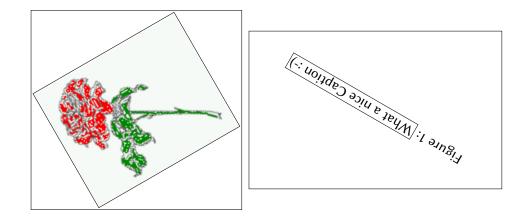
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The package hvfloat defines a macro to place objects and captions of floats in different positions with different rotating angles.

All objects and captions are framed on the first pages, which is only for some demonstration here and has no additional sense!

To compare the place of the definition of the floating objects in the source and the output a marginnote float is set into the margin. This is done also only for demonstration!



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2 The Macros and optional arguments

1 The package options

fbox	The objects and captions are put into a \fbox command, like in this documentation.
	This doesn't make real sense and is only for some demonstration useful or for
	locating problems if images seems to have too much whitespace.

hyperref Load package hyperref.

The length <code>\belowcaptionskip</code> is set by ${\ensuremath{\mathbb I}}^{AT}_{E}X$ to 0pt and changed in <code>hvfloat</code> to the same value than <code>\abovecaptionskip</code>. This length can be changed to another value in the usual way with <code>\setlength</code> or <code>\addtolength</code>.

The following packages are loaded by hvfloat and the optional argument hypcap is passed to the packages caption and subcaption:

caption, subcaption, atbegshi, expl3, multido, graphicx, xkeyval, ifoddpage, and afterpage.

2 The Macros and optional arguments

The syntax for the macros and \setDefaults, \hvSet, and \hvFloat is

```
\hvset{key=value list}
\setDefaults
\hvFloat* [Options] + {float type} {floating object} [short caption] {long caption} {label}
```

The star version is explained in section 10 on page 22 and 18.2 on page 50 and the optional **±** is explained in section 16.3 on page 37.

\hvSet allows the global setting of keywords and \setDefaults sets all keywords to its default value as shown in Table 2 on the next page.

If \hvFloat has an empty second parameter <float type>, then \hvFloat switches by default to a nonfloat (see table 2) object, which is not important for the user. All other parameters may also be empty and the short caption as second optional parameter missing. This one is as usual the caption for the \listoffigures.

There are some more macros defined, more or less for internally use in hvfloat, but they can be used for own purposes.

```
\figcaption [short caption text] {caption text}
\tabcaption [short caption text] {caption text}
```

They are used for the nonFloat keyword, where these macros write captions in the same way but outside of a float environment. The default caption cannot be used here. It is no problem to use the \tabcaption command to place a caption anywhere, like here in an inlined mode:

Table 1: A Caption without any sense and any object

A label can be put inside the argument or after the command in the usual way, so that a reference to the not existing table 2 is no problem.

[...] It is no problem to use the \verb|\tabcaption| command to place a caption anywhere, like here in an inlined mode: \tabcaption[The Caption without sense ...]{A Caption without any sense and any object}\label{dummy} A label can be put inside the argument or after the command in the usual way, so that a reference to the not existing table~\ref{dummy} is no problem.

With the macro \defhvstyle one can define a style which can be used instead of the individual setting:

\defhvstyle{*name*}{*setting*}

Internally the style is saved in a macro named $\begin{tabular}{ll} \label{eq:linear} \label{eq:linear} \end{tabular}$

There are the following keywords:

Keyword	Default	Description	
floatPos	htb	This is <i>not</i> the same default placement setting like the one from the floats.	
rotAngle	0	The value for the angle if both, the object and the caption should be rotated in the same way.	
capWidth	n	The width of the caption. Can be »n« like a natural width, »w« for the width of the object, »h« for the height of the object, or a scale for \columnwidth.	
capAngle	0	The value for the angle if the caption should be rotated. Counted anti clockwise.	
capPos	before	The position of the caption relative to the object. Possible values are before: <i>always</i> before (left) from the object. left: <i>always</i> before (left) from the object, but on the <i>same page</i> in twocolumn mode. after: <i>always</i> after (right) from the object. right: <i>always</i> after (right) from the object, but on the <i>same page</i> in twocolumn mode. inner: in twoside mode always typeset at the inner margin. outer: in twoside mode always typeset at the outer margin. evenPage: in twoside mode with fullpage objects always on an even page. oddPage: in twoside mode with fullpage objects always on an odd page.	
capVPos	с	This is only important for capPos=left right. Only in this case the caption can vertically placed at the bottom, center and top.	
objectPos	center	The horizontal placement of the object relative to the document. Possible values are $(\mathbf{l})eft (\mathbf{c})enter (\mathbf{r})ight.$	
objectAngle	0	The value for the angle if the object should be rotated. Counted anti clockwise.	
floatCapSep	5	The additional width between the object and a left or right placed caption. The default unit is pt.	

Table 2: The optional keywords for the macro \hvFloat

3 The default use of floating environments

Keyword	Default	Description
use0Box	false	Instead of passing the object as parameter to the \hvFloat, the contents maybe saved in the box \hvOBox With useOBox=true the contents of this box will be used.
nonFloat	false	The object isn't put in a floating environment. It is printed as standard text with an additional caption. The float counters are increased as usual and can be referenced.
wide	false	The float can use $\textwidth+\marginparwidth$ as horizontal width.
objectFrame style	false —	put a frame with no separation around the float object. Use a defined style

3 The default use of floating environments

In this case there is no essential difference to the well known figure or table environment, f.ex.:

```
\begin{figure}
... object ...
\caption{...}% caption below the object
\end{figure}
```

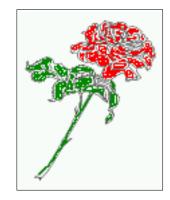


Figure 2: Without any keywords (only the fbox package option)

Code for figure 2:

\hvFloat{figure}{\includegraphics{images/rose}}{Without any keywords (only the \texttt{fbox})
 package option)}{fig:0}

float Code for table 3:

```
\hvFloat[capPos=top]{table}{%
\begin{tabularx}{\textwidth}{>{\ttfamily}l|l|X}
  \rmfamily Name & Type & Description\\\hline
  \CMD{hvFloat} & command & places object and caption in different ways\\
```

Table 3: With the only Option capPos=top to place the caption on top of the table, which is often the default.

Name	Туре	Description	
\hvFloat	command	places object and caption in different ways	
hvFloatEnv	environment	places object and caption exactly Here	
\figcaption	command	writes a figure caption in a non floating environment	
\tabcaption	command	writes a table caption in a non floating environment	
\setDefaults	command	sets all options to the defaults	
\defhvstyle	command	define a user style	

```
hvFloatEnv & environment & places object and caption exactly Here\\
 \CMD{figcaption} & command & writes a figure caption in a non floating environment\\
 \CMD{tabcaption} & command & writes a table caption in a non floating environment\\
 \CMD{setDefaults} & command & sets all options to the defaults\\
 \CMD{defhvstyle} & command & define a user style
\end{tabularx}}%
{With the only Option \texttt{capPos=top} to place the caption on top of the table, which is often
     the default.}%
```

{tab:0}

See section 13 for some more informations about tabulars as objects.

4 Caption width

4.1 Default - natural width

The default setting is the natural width of a paragraph with respect to the current linewidth or columnwidth for a caption below or above an object. It behaves in the same way as a caption set by one of the default floating environments like figure or table:

```
\hvFloat[floatPos=!htb]{figure}{\includegraphics{images/rose}}%
  {Default caption width setting, which is the natural width with respect to the current linewidth
      .}{fig:width0}
```

ffloat For the following examples the package option fbox is disabled. All frames are now set with the macro \frame or the optional keyword objectFrame.

For a caption beside an object, the *natural* caption width (without the optional argument wide) is given by the current linewidth minus the width of the object and the space between object and caption, which is set by floatCapSep (see Table 2 on page 7).

```
\hvFloat[floatPos=!htb,capPos=after,objectFrame]{figure}{\includegraphics[scale=1.5]{images/rose}}
    o,
```

{Caption right beside with a \emph{natural} width, which is given by the width of the object, the separation between object and caption, and the current linewidth.}{fig:width1}

float

4 Caption width

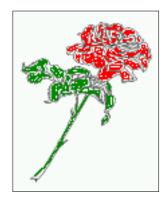


Figure 3: Default caption width setting, which is the natural width with respect to the current linewidth.

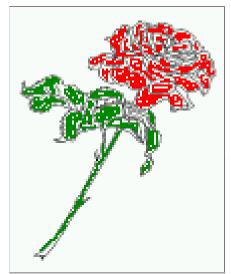


Figure 4: Caption right beside with a *natural* width, which is given by the width of the object, the separation between object and caption, and the current linewidth.

4.2 Relative linewidth

With capWidth=<number> the caption width is set to <number>\columnwidth. For captions at the bottom or on top of objects the setting is not checked if <number> is greater than 1.

```
\hvFloat[floatPos=!htb,capWidth=0.9]{figure}{\includegraphics{images/rose}}%
{Caption below with a width of 0.9 of the current line width (column width), which is
    in this special case \the\linewidth. Divide it by 28.82 to get cm.}{fig:width2}
```

float

If such a value like 0.9\linewidth is used for a caption beside an object, then the macro does a test if the space beside the object is less equal the defined caption width. If not then the width is set to the possible value between object and margin:

\hvFloat[floatPos=!htb,

```
capPos=after,
capWidth=0.9]{figure}{\includegraphics[scale=1.5]{images/rose}}%
```

4.3 Identical object and caption width

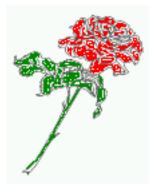


Figure 5: Caption below with a width of 0.9 of the current line width (column width), which is in this special case 376.4258pt. Divide it by 28.82 to get cm.

{Caption right beside with a width setting of \texttt{0.9\textbackslash linewidth}
which is too big for this example and therefore corrected
by the macro to the maximal width.}{fig:width3}

float

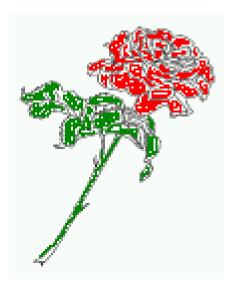


Figure 6: Caption right beside with a width setting of 0.9\linewidth which is too big for this example and therefore corrected by the macro to the maximal width.

4.3 Identical object and caption width

With capWidth=w the caption width is like the object width which makes only real sense if you have a lot of identical images with respect to its widths.

```
\hvFloat[floatPos=!htb,capWidth=w]{figure}{\includegraphics[width=0.5\linewidth]{images/CTAN}}%
{Caption below with a width of the given object which may be a problem
if it is a very small object.}{fig:width4}
```

float

5 Caption left or right of the object

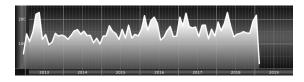


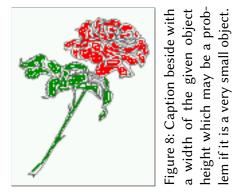
Figure 7: Caption below with a width of the given object which may be a problem if it is a very small object.

4.4 caption width to height of the object

With capWidth=h the caption width is like the object height which makes only real sense if you want to put a rotated caption beside the object.

```
\hvFloat[floatPos=!htb,capPos=after,capWidth=h,capAngle=90,objectFrame]{figure}{\includegraphics{
    images/rose}}%
```

{Caption beside with a width of the given object height which may be a problem if it is a very small object.}{fig:width5}



5 Caption left or right of the object

By default the caption is set on the left side of the object. If the caption and the object are set side by side, then the keyvalue before is identical to the setting left.

5.1 Caption right with specific length

```
Code for figure 9:
```

```
\hvFloat%
[floatPos=htb,
    capPos=right,
    objectFrame,
    objectPos=c]{figure}{\includegraphics[scale=0.9]{images/rose}}%
[Caption beside object and vertically centered]%
```

{Caption vertically centered right beside the float with a natural caption width
 (the default). \blindtext}%
 {fig:1}

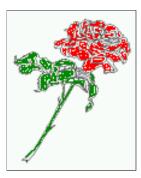
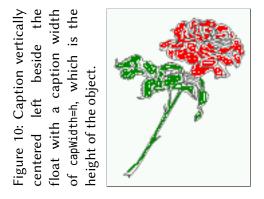


Figure 9: Caption vertically centered right beside the float with a natural caption width (the default). Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

5.2 Caption left and rotated

```
Code for figure 10:
\hvFloat%
[floatPos=htb,
    capPos=left,
    capWidth=h,% of \columnwidth
    capAngle=90,
    objectFrame
]{figure}{\includegraphics{images/rose}}%
[Centered Caption beside Object]%
{Caption vertically centered left beside the float with a caption width
    of \texttt{capWidth=h}, which is the height of the object.}{fig:2}
```





float

capPos=right

It is no problem to rotate the object, too. But with a different angle value than for the caption. Do not ask for the sense, it is only a demonstration of what is possible ... The object (image) is rotated by -30 degrees with the macro \rotatebox. Without any definition the caption will be

6 Caption inner or outer

placed vertically centered to the object. Important for the height of the object is the surrounding orthogonal rectangle.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Code for figure 11:

```
\hvFloat[%
    capWidth=h,
    capPos=after,
    capAngle=180,
    objectAngle=90,
    capVPos=center,
    objectPos=center]{figure}{\frame{\includegraphics{images/rose}}}%
    [Centered Caption beside Object]{%
    {Caption vertically centered right beside the float with a caption width of the height
    of the image and a rotation of the caption and the object.}{fig:3}
```

float

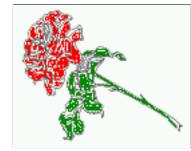


Figure 11: Caption vertically centered right beside the float with a caption width of the height of the image and a rotation of the caption and the object.

6 Caption inner or outer

Setting the caption position to *inner* or *outer* makes only sense for a document in twoside mode. For a oneside document *inner* is the same as *left* and *outer* is the same as *right*. We show only the code for the first image with the setting capPos=inner, whereas the second one chooses only capPos=outer.

Code for figure 12:

```
\hvFloat[capPos=inner]{figure}{\includegraphics{images/rose}}%
  [Centered Caption on the inner side]{%
  Caption set with the parameter setting \texttt{capPos=inner}, which will be
  a caption on the right side for an even page and on the left side for
  an odd page.}{fig:20}
```

side for an odd page.

Figure 12: Caption set with the parameter setting capPos=inner, which will be a caption on the right side for an even page and on the left

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Now the same Image with capPos=outer. The current pagenumber is 15, an odd page. We now set a pagebreak at the end of the second image to see if it works with *inner/outer*.

\hvFloat[capPos=outer]{figure}{\includegraphics{images/rose}}%

[Centered Caption on the inner side]{%
Caption set with the parameter setting \texttt{capPos=outer}, which will be
a caption on the right side for an even page and on the left side for
an odd page.}{fig:20b}

Figure 13: Caption set with the parameter setting capPos=outer, which will be a caption on the right side for an even page and on the left side for an odd page.

We have an odd page, the reason why figure 13 has the caption for *inner* on the left side and figure 14 for *outer* on the right side.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how

float capPos=outer

float

capPos=inner



7 Vertical Position of the Caption

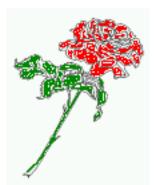


Figure 14: Caption at the bottom right beside the float with a caption width of 0.5\columnwidth and and capPos=outer.

the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Code for figure 15:

```
\hvFloat[%
```

```
capWidth=0.5,% of \columnwidth
capPos=inner,% ====> INNER
capAngle=0,
capVPos=bottom,
objectPos=center]{figure}{\includegraphics{images/rose}}%
[Centered Caption beside Object]{%
Caption vertically centered right beside the float with a caption
width of \texttt{0.5\textbackslash columnwidth} and \texttt{capPos=outer} }{fig:22}
```

float



Figure 15: Caption vertically centered right beside the float with a caption width of 0.5\columnwidth and capPos=outer

We have an even page, the reason why figure 12 has the caption for *inner* on the right side and figure 14 for *outer* on the left side.

7 Vertical Position of the Caption

The caption can be placed beside the object in the positions

(c)enter|(b)ottom|(t)op

The code for figure 16:

\hvFloat[%

```
floatPos=htb.%
capWidth=0.25,%
capPos=right,%
capVPos=bottom,%
```

]{figure}{\frame{\includegraphics{images/rose}}}{Caption at bottom right beside the float}{fig:4}

float

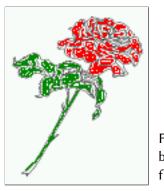


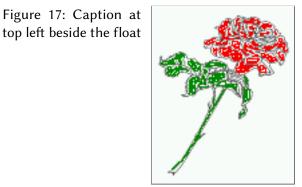
Figure 17: Caption at

Figure 16: Caption at bottom right beside the float

The code for figure 17:

\hvFloat[% floatPos=htb, capWidth=0.25, capPos=right, capVPos=top,

]{figure}{\frame{\includegraphics{images/rose}}}{Caption at top left beside the float}{fig:5}



float

The code for figure 18:

\hvFloat[%

```
capWidth=0.25,
     capPos=right,
     capVPos=center,% the default
]{figure}{\frame{\includegraphics{images/rose}}}{Caption centered right beside the float}{fig:6}
```

float

8 Horizontal Position of the Float

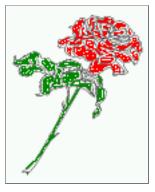


Figure 18: Caption centered right beside the float

8 Horizontal Position of the Float

The caption is always near the object, only divided by the length \floatCapSep which can be set by the keyword of the same name floatCapSep. It accepts only a decimal number and is preset to 5. The default unit is pt and cannot be changed. The keyword objectPos refers always to the complete floating object: caption *and* object. The meaning of objectPos=left is: Put the object as far as possible to the left margin. If capPos=left is also used, then the caption is at the left margin followed by the object (see Figure 20 on the next page).

The code for figure 19:

```
\hvFloat[%
    capWidth=0.25,
    capPos=right,
    capVPos=top,
    objectPos=left,
    objectFrame,
]{figure}{\includegraphics{images/rose}}{%
    Caption at top right beside the float and object position left}{fig:7}
```



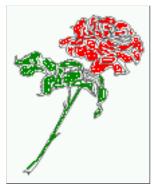


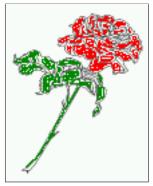
Figure 19: Caption at top right beside the float and object position left

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how

the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

The same with capPos=left :

Figure 20: Caption at top right beside the float and object position left

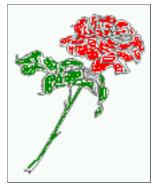


Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

The code for figure 21:

```
\hvFloat[%
    capWidth=0.25,
    capPos=before,
    capVPos=top,
    objectPos=right,
    objectFrame,
]{figure}{\includegraphics{images/rose}}{%
    Caption at top leftt beside the float and object position right}{fig:8}
```

Figure 21: Caption at top left beside the float and object position right



float

float

capPos=left

Hello, here is some text without a meaning. This text should show what a printed text will

9 Wide floats

look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

9 Wide floats

With the optional argument wide the width of the defined \marginparwidth is added to the allowed horizontal width of the float.

The code for figure 22:

```
\hvFloat[wide,
    capPos=right,
    capVPos=top,
    objectPos=left,
]{figure}{\includegraphics[width=0.75\linewidth]{images/CTAN}}{%
    Caption at top right beside the float and object position left and
the option \texttt{wide}.}{fig:70}
```

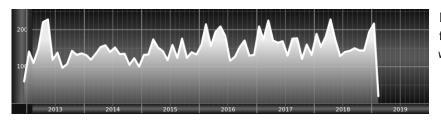
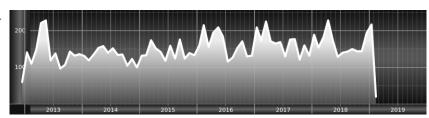


Figure 22: Caption at top right beside the float and object position left and the option wide.

The code for figure 23:

\hvFloat[wide, capPos=left, capVPos=top, objectPos=right,]{figure}{\includegraphics[width=0.75\linewidth]{images/CTAN}}% {Caption at top left beside the object and object position left and the option \texttt{wide}.}{fig:80}

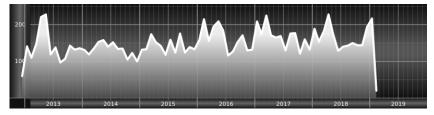
Figure 23: Caption at top left beside the object and object position left and the option wide.



For a twosided document it will place the object always in the margin.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

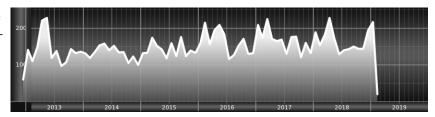
Figure 24: Caption at top and inner beside the float and object position right and the option wide.



Now we set the same image with the same setting on the next page. The caption will change its side due to the setting capPos=outer .

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Figure 25: Caption at top inner beside the float and object position right and the option wide.



11 Full Page Width in Landscape Mode

10 The star version \hvFloat*

In the twocolumn mode the floating environment can be set over both columns with the star version \hvFloat*. The floating environment will not be on the bottom of the page. The code for the following example (Figure 26) is:

\hvFloat*[capPos=right]{figure}%
{\includegraphics{images/frose}}%
[A float with the default caption setting]%
{A default caption of a ''' object with the default setting, which
is a ''left'' caption which means that it always appears before the object.
This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}%
{fig:0}

The example shows on page 3 the star version and on page 4 the same without using the star.

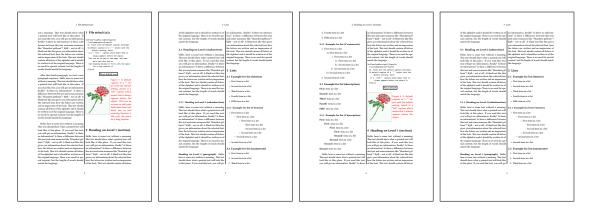


Figure 26: Output of default1s2c (pages 2 -5)

11 Full Page Width in Landscape Mode

If you do not want to load the package lscape (or pdflscape) you can use the floatPos=p option to put the image on an own page and rotated by 90 degrees (figure 27).

Code for figure 27:

```
\hvFloat[%
    floatPos=p,
    capPos=bottom,
    rotAngle=90,
    objectPos=center,
]{figure}{\includegraphics[width=0.9\textheight]{images/CTAN}}%
[Object and Caption in landscape mode]{%
    Caption and object in landscape mode. \blindtext}{fig:9}
```

The float can also be put to the left or to the right (above/below in landscape) with the objectPos=l parameter

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

The code for figure 28:

\hvFloat[%

```
floatPos=p,
capWidth=h,
capPos=right,
objectAngle=90,
capAngle=-90,
objectPos=left,
]{figure}{\includegraphics[width=\textheight]{images/CTAN}}%
[Rotated Caption in Landscape]{%
Caption right beside the float and object position left. The caption rotated by $-90$
degrees.\blindtext}{fig:10}
```

Hello, here is some text without a meaning. This text should show what a printed text will float look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

12 The nonFloat Option

Sometimes it is better to put a "float" in a specific position of the page. This is possible with the nonfloat package and the keyword nonFloat.

Some nonsense text before the following \emph{non floating} object.

 float landscape

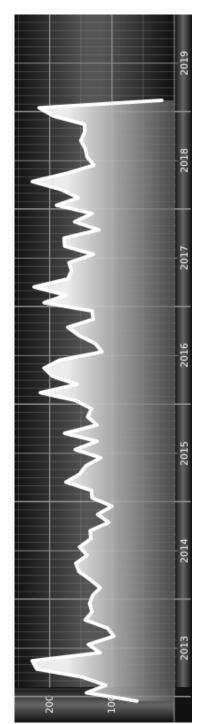
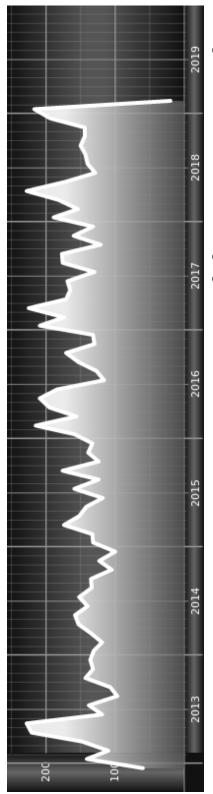


Figure 27: Caption and object in landscape mode. Hello, here is some text without a meaning. will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift - not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the This text should show what a printed text will look like at this place. If you read this text, you original language. There is no need for special content, but the length of words should match the language.



a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. the length of words should match the language. should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift - not at all! Figure 28: Caption right beside the float and object position left. The caption rotated by -90 degrees. Hello, here is some text without

13 Tabulars as Objects

```
capWidth=0.25,
capPos=right,
capVPos=bottom,
objectPos=center,
objectFrame,
]{figure}{\includegraphics[scale=1.5]{images/rose}}%
[Nonfloat Captions]{%
Caption of a ''nonfloat'' Object, using the \texttt{nonfloat} Package}{fig:11}
```

Some nonsense text after the preceding **\emph**{non floating} object.

float Some nonsense text before the following *non floating* object.

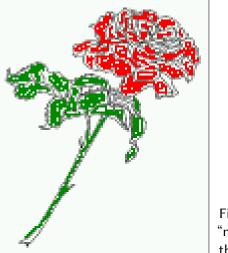


Figure 29: Caption of a "nonfloat" Object, using the nonfloat Package

Some nonsense text after the preceding non floating object.

The image 12 is exactly placed where the command \hvFloat appears. There are only commands for figure and table environments:

\newcommand{\figcaption}{\def\@captype{figure}\caption}
\newcommand{\tabcaption}{\def\@captype{table}\caption}

But it is no problem, to define more xxxcaption commands to support other with the float package defined new floats.

13 Tabulars as Objects

The object has to be passed as an parameter to the hvFloat macro. This is no problem with images but maybe with tables, so it is easier to use the box hvOBox to save the table in this box and pass it then to hvFloat with the useOBox option. For example see table 4 and 5:

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no

information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

```
\savebox{\hvOBox}{%
 \begin{tabular}{>\small\ttfamily}l|l|l}\hline
 \rmfamily Name & Type & Description\\hline
 \CMD{hvFloat} & command & places object and caption in different ways\\
 hvFloatEnv & environment & places object and caption exactly Here\\
 \CMD{figcaption} & command & writes a figure caption in a non floating environment\\
 \CMD{tabcaption} & command & writes a table caption in a non floating environment\\
 \CMD{setDefaults} & command & sets all options to the defaults\\\hline
 \end{tabular}%
}
```

The code for table 4 and 5 is:

```
\hvFloat[%
floatPos=!hb,
capPos=top,
useOBox=true]{table}{}{Demonstration of the \texttt{useOBox} Parameter}{table:1}
```

\blindtext

```
\hvFloat[%
floatPos=hb,
use0Box=true,
objectAngle=90,
capPos=right,
capVPos=top,
capWidth=0.3]{table}{}{Another demonstration of the \texttt{use0Box} Parameter}{table:2}
```

In this case leave the third parameter empty.

Table 4: Demonstration of the use0Box Parameter

Name	Туре	Description
\hvFloat	command	places object and caption in different ways
hvFloatEnv	environment	places object and caption exactly Here
\figcaption	command	writes a figure caption in a non floating environment
\tabcaption	command	writes a table caption in a non floating environment
\setDefaults	command	sets all options to the defaults

float

14 Text and objects

Name	Type	Description
\hvFloat	command	places object and caption in different ways
hvFloatEnv	environment	places object and caption exactly Here
\figcaption	command	writes a figure caption in a non floating environment
\tabcaption	command	writes a table caption in a non floating environment
\setDefaults command	command	sets all options to the defaults
		T. tl

Table 5: Demonstration of the use0Box Parameter

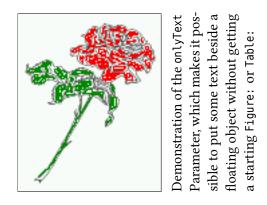
14 Text and objects

With the onlyText keyword it is no problem to put some text beside an image without getting the caption title Figure/Table. The object still can be a floating one or a nonfloating if the nonfloat keyword is used.

The code for figure 14:

```
\hvFloat[%
    onlyText=true,
    capAngle=90,
    capPos=right,
    capVPos=top,
    objectFrame,
    capWidth=h]{}{\includegraphics{images/rose}}%
    [''\texttt{onlyText}'' Caption]{%
    Demonstration of the \texttt{onlyText} Parameter, which makes it
```

possible to put some text beside a floating object without getting a starting \texttt{Figure:} or \texttt{Table:}}{fig:text}



15 Environment hvFloatEnv

With the environment hvFloatEnv one can place an object exactly on that position where the environment is defined. For captions the use of \captionof is recommended:

```
\begin{hvFloatEnv}
\captionof{table}{A caption for a nice table}
\begin{tabular}{@{} l c r @{}}\hline
left & center & right \\
L & C & R \\\hline
\end{tabular}
\end{hvFloatEnv}
```

Table 6: A caption for a nice table

left	center	right
L	С	R

The environment has an optional argument for setting the line width which is preset to \textwidth. The object is always centered.

```
\begin{hvFloatEnv}[0.5\textwidth]
\captionof{table}{A caption for a nice table}
\begin{tabular}{@{} l c r @{}}\hline
left & center & right \\
L & C & R \\\hline
\end{tabular}
\end{hvFloatEnv}
```

Table 7: A caption for a nice table

left	center	right
L	С	R

float

16 Full page objects in onecolumn mode

16 Full page objects in onecolumn mode

For an image or table which needs the whole space of a page the caption can be printed at the bottom of the preceeding or following page. It is possible in oneside and twoside mode, but makes only real sense in the twoside mode. hvfloat defines three additional optional arguments for placing images in a complete column, page or paper:

```
\define@key{Gin}{fullpage}[true]{%
   \def\Gin@ewidth{\columnwidth}%
   \def\Gin@eheight{\textheight}%
   \Gin@boolkey{false}{iso}%
}
\define@key{Gin}{FULLPAGE}[true]{%
   \def\Gin@ewidth{\paperwidth}%
   \def\Gin@eheight{\paperheight}%
   \Gin@boolkey{false}{iso}%
}
```

\define@key{Gin}{FullPage}[true]{%
 \def\Gin@ewidth{\textwidth}%
 \def\Gin@eheight{\textheight}%
 \Gin@boolkey{false}{iso}%
}

```
Figure 30 shows the meaning of the optional arguments fullpage, FullPage, and FULLPAGE for \inclugegraphics [...] {tiger}.
```

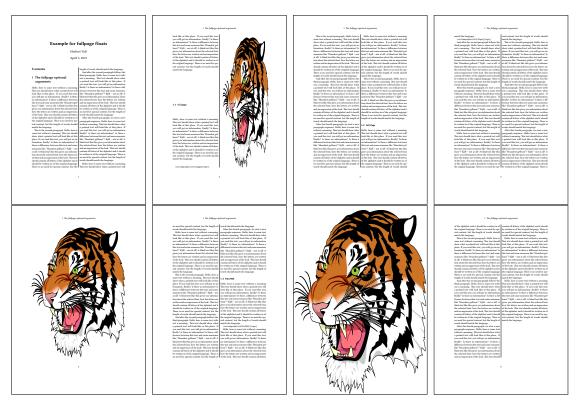


Figure 30: Output of fullpage1s2c (pages 1-8)

16.1 Using the textarea

The setting capPos=evenPage (even) or capPos=oddPage (odd) page for a document in twocolumn mode makes no real sense. For a twosided document a setting like capPos=inner for inner or capPos=outer for outer margin makes more sense. For an image or table which needs the whole space of a page the caption can be printed at the bottom of the preceeding or following page. It is possible in oneside and twoside mode, but makes only real sense in the twoside mode. Without any additional argument the caption is set first and the object on the follwing page:

16.1.1 Using the default or capPos=before

Without any additional argument the caption is set first (left) at the bottom of the current page and the object on the following page. This is the same setting like capPos=left for a onecolumn document. For the twocolumn option it makes more sense to use the setting capPos=before if the caption and object can appear on different pages.

\hvFloat[fullpage]%

```
{figure}%
{\includegraphics[fullpage]{images/frose}}%
[A fullpage float with the default caption setting]%
{A default caption of a ''fullpage'' object with the default setting, which
is a ''left'' caption which means that it always appears ''before'' the object.
This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}%
{fig:fullpage0}
```

Name	Туре	Description	
fullpage	true false	Put the caption on the bottom of the preceding or following page	
		and the object alone a page.	
FULLPAGE	true false	The same for full papersize objects over one or two columns. The	
		pagestyle is set to empty	
multiFloat	true false	For multiple objects with captions for every object. See sec-	
		tion 16.3 on page 37.	
subFloat	true false	For multiple objects with one main and more subcaptions. See	
		section 17 on page 39.	
separatorLine	true	Put a line with a predefined width of 0.4pt between the text and	
		the caption. Only valid for the keyword fullpage.	
capPos	value	caption before, after an object or on an evenPage or oddPage.	

Table 8: Valid optional arguments for a full page object.

With this setting the caption is always placed *before* the following object. This maybe sufficient for a oneside document but not the best solution if this document is printed on a duplex machine. In such a case it may make sense to have the captions always on an even (left)

16 Full page objects in onecolumn mode

page, even though the socument is typeset in a oneside mode. Figure 31 shows the output for a oneside document with a setting capPos=before .

Depending to the used documentclass it can be a problem, if the caption should be placed on the first page. In such a case use one of the other setting. Table 8 on the previous page shows the valid optional arguments for a full page floating object.



Figure 31: Output of default1s1c (pages 2-9)

16.1.2 Using capPos=after

The caption will be printed always on the right side which is the same as *after* the full page object. The object appers immediately on the next page and the caption of the next following page at the bottom. There is no check for an even or odd page. This behaviour makes only sense for a oneside document.

\hvFloat[fullpage, capPos=after]%

{figure}%

{\includegraphics[fullpage]{images/frose}}%

[A float which needs the complete page width and height.]%
{A Caption of a ''fullpage'' object, which follows on the next page.
This can be an even or odd page. And some more text whch has no

real meaning because it fills only the space for a long caption.}
{fig:fullpage1}

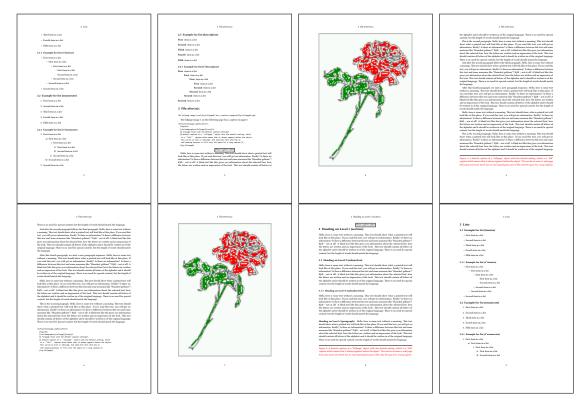


Figure 32: Output of after1s1c (pages 2-9)

16 Full page objects in onecolumn mode

16.1.3 Using capPos=evenPage – caption on an even page

With capPos=evenPage the caption will be printed on an even (left) page, the object will always be on an odd (right) page. This option makes only real sense for The twoside mode!

\hvFloat[fullpage, capPos=evenPage]%
 {figure}%
 {\includegraphics[fullpage]{images/frose}}%
 [A float whith a caption on an even page (left)]%
 {A caption on an even (left) page of a ''fullpage'' object.. \blindtext}
 {fig:fullpage3}

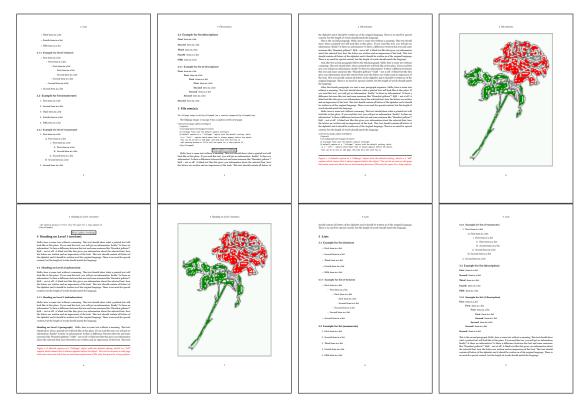


Figure 33: Output of even1s1c (pages 2-9)

16.1.4 Using capPos=oddPage – caption on an odd page

With capPos=oddPage the caption will be printed on an odd (right) page, the object will always be on an even (left) page, which is before the caption.

\hvFloat[fullpage, capPos=oddPage]%

{figure}%

{\includegraphics[fullpage]{images/frose}}%

[A float which needs the complete page width and height.]%

{A Caption on an odd page of a ''fullpage'' object, which follows on the next page.

This can be an even or odd page. And some more text whch has no

real meaning because it fills only the space for a long caption.}

{fig:fullpage2}

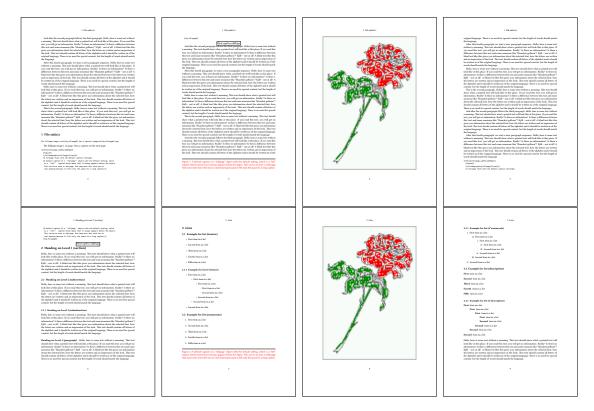


Figure 34: Output of odd1s1c (pages 2-9)

16.1.5 Using capPos=inner or capPos=outer – caption on the inner or outer side

These settings make no sense in onecolumn mode.

16 Full page objects in onecolumn mode

16.2 Using the paper size

It belongs to the user to create an object which fills the complete page. However, with the keyword FULLPAGE which is valis for \hvfloat *and* for the macro \includegraphics an image will be scaled to the paper dimensions \paperwidth and \paperheight. It can be used in one- and twocolumn mode!

\hvFloat[FULLPAGE]%

```
{figure}%
{\includegraphics[FULLPAGE]{frose.png}}%
[A fullpage float with the default caption setting]%
{A default caption of a ''fullpage'' object with the default setting, which
  is a ''left'' caption which means that it always appears before the object.
  This can be an even or odd page. And some more text which has no
  real meaning because it fills only the space for a long caption.}%
{fig:fullpage0}
```

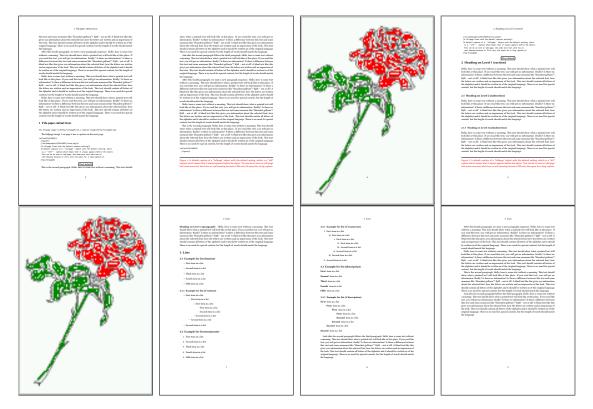


Figure 35: Output of paper-default1s1c (pages 2–9)

16.3 Multifloats

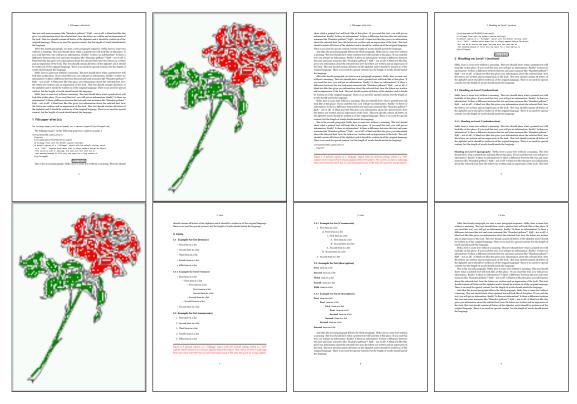


Figure 36: Output of paper-after1s1c (pages 2-9)

16.3 Multifloats

Multifloats is the name for more than one image and/or tabular in *one* floating environment. Every image and/or tabular has its own caption, which is different to a subcaption. The syntax for multiple floats is

<pre>\hvFloat[Options] +{float type}{floating object}[short caption] {long caption}{label}</pre>
+{float type}{floating object}[short caption] {long caption}{label}
+
+{float type}{floating object}[short caption] {long caption}{label}

The + symbol defines an additional Object which will be part of the same floating environment. It's up too the user to be sure that one page or one column can hold all defined objects. Every object gets its own caption which is the reason why figures and tabulars and ... can be mixed:

```
\captionsetup{singlelinecheck=false}
\hvFloat[fullpage,capPos=before,multiFloat]%
+{figure}{\includegraphics[width=\linewidth]{images/CTAN}}% no 1
[Short caption A]%
{A Caption A of a ''fullpage'' object, which follows on the left or
right column. This can be an even or odd page. And some more text whch has no
```

```
real meaning because it fills only the space for a long caption.}%
 {img:demo0}%
+{table}{\begin{tabular}{lrcp{3cm}}\hline
                                                          %
                                                                        no 2
          Linksbündig & Rechtsbündig & Zentriert & Parbox\\\hline
          L
                     & R
                                    & C
                                                 & P\\
          left
                     & right
                                    & center
                                                 & Text with possible linebreaks\\
          \multicolumn{4}{c}{Multicolumn over all columns}\\\hline
         \end{tabular}}%
 [Short Caption B]%
 {A Caption B of a ''fullpage'' object, which follows on the left or
      right column. This can be an even or odd page.}{}%
+{figure}{\includegraphics[width=\linewidth]{images/CTAN}}%
                                                                                no 3
 {A Caption C of a ''fullpage'' object, which follows on the left or
    right column.}%
 {img:demo1}
+{figure}{\includegraphics[width=\linewidth]{images/CTAN}}%
                                                                                no 4
 {A Caption C of a ''fullpage'' object, which follows on the left or
    right column.}%
```



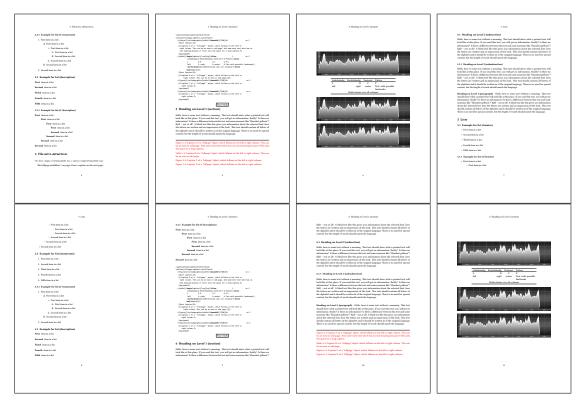


Figure 37: Output of multi-default1s1c (pages 4–11)

The page with the objects has no additional informations it holds only the figures and/or

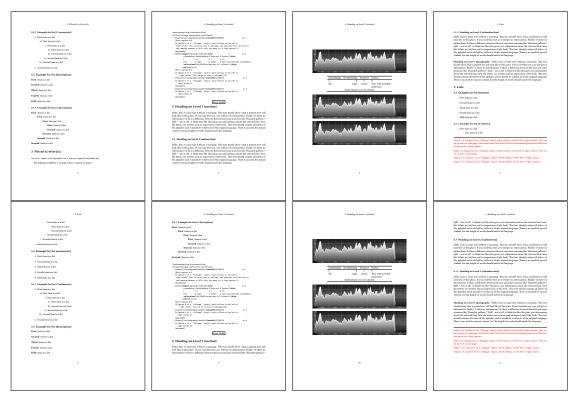


Figure 38: Output of multi-after1s1c (pages 4–11)

tabulars. If you want it like subfigures or subtabulars then go to section 17. The setting \captionsetup{singlelinecheck=false} is needed if you want the captions always left aligned.

17 Subfloat page

A subfloat page can have only one type of floats which will have one main caption and individual subcaptions. The syntax is similiar to the one for a multifloat page:

\hvFloat[Options] +{float type}{<empty>}[short caption] {long caption}{label}
 +{<empty>}{floating object}[short caption] {long caption}{label}
 +...
 +{<empty>}{floating object}[short caption] {long caption}{label}

Some arguments are ignored for a subfloat, one can leave them empty. The first line defines only the type and the main caption, the object entry is ignored! All aditional lines will have the same float type, the reason why the float type entry is ignored.

```
\hvFloat[fullpage,capPos=before,objectFrame,subFloat]%
+{figure}{}[Short main caption of the objects]% main short lsi entry
{The main caption of a ''fullpage'' object, which follows on the left or
```

17 Subfloat page

```
right column. This can be an even or odd page. And some more text whch has no
      real meaning because it fills only the space for a long caption.}% main caption
{sub:demo0}%
+{}{\includegraphics[width=\linewidth]{images/CTAN}}%
 [Short caption B]%
 {A Caption B of a ''fullpage'' sub object.}% subcaption
{}%
+{}{\includegraphics[width=\linewidth]{images/CTAN}}%
{A Caption C of a ''fullpage'' object, which follows on the left or right column.}%
{sub:demo1}
+{}{\includegraphics[width=\linewidth]{images/CTAN}}%
 {A Caption D of a ''fullpage'' object}%
 {sub:demo2}
+{}{\includegraphics[width=\linewidth]{images/CTAN}}%
{A Caption E of a ''fullpage'' object}%
 {sub:demo3}
```

The keyword subFloat defines the images or tabulars as subfloats. The package subcaption is loaded by default and should be activated with \captionsetup[sub][singlelinecheck].

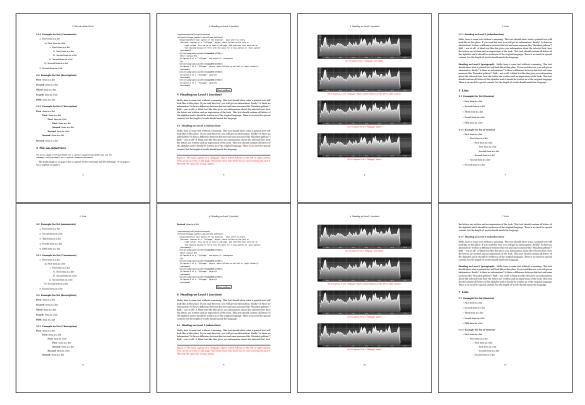


Figure 39: Output of sub-default1s1c (pages 4–11)

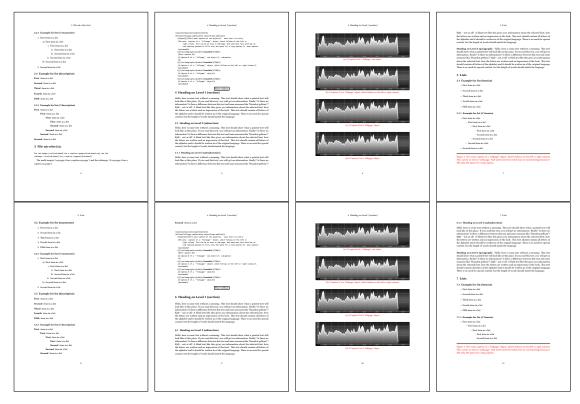


Figure 40: Output of sub-after1s1c (pages 4–11)

18 Full page objects in twocolumn mode

The filenames always have a "2c" for two columns in its names, e.g. left2s2c indicates capPos=before and the documentclass setting twoside and twocolumn. Depending to the used documentclass it can be a problem, if the caption should be placed on the first page of the whole document. In such a case use one of the other setting. Table 8 on page 31 shows the valid optional arguments for a full page floating object.

18.1 Default setting

For the twocolumn mode the caption can be in the left (first) or right (second) column. With the default setting (without using the keyword capPos) it is equivalent to the setting capPos=before , the caption is always placed *before* (left of) the object. This can be the first or the second column and both can be on different pages. With capPos=before (uppercase L) it is possible to get the caption and the object in the twocolumn mode always on one page. This is then the left (first) column for the caption (see figure 41).

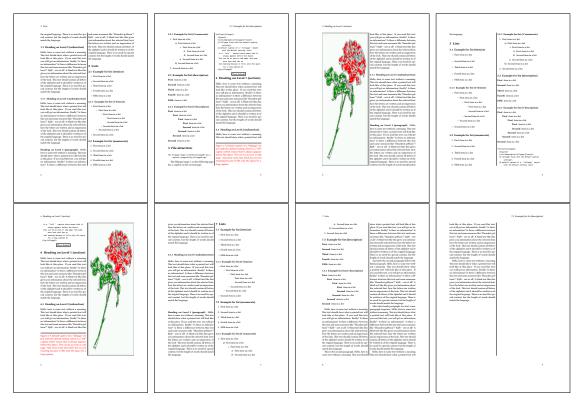


Figure 41: Output of default2s2c (pages 2-9)

\hvFloat[fullpage]{figure}%

 $\label{eq:lincludegraphics[width=\columnwidth,height=0.9\textheight]{images/frose}}$

[A float which needs the complete column width and height.]%

```
{A Caption of a ''fullpage'' object, which follows on the next column.
This is always the right column on an even or odd page. And some more
text which has no real meaning because it fills only the space for a long
caption.}%
{fig:fullpage0-2}
```

The example 41 on the preceding page shows that the caption and the object can be on different pages. If you do not like this behaviour, then use the setting capPos=left, which puts the caption before the object, but always on the *same page* (see Figure 42).

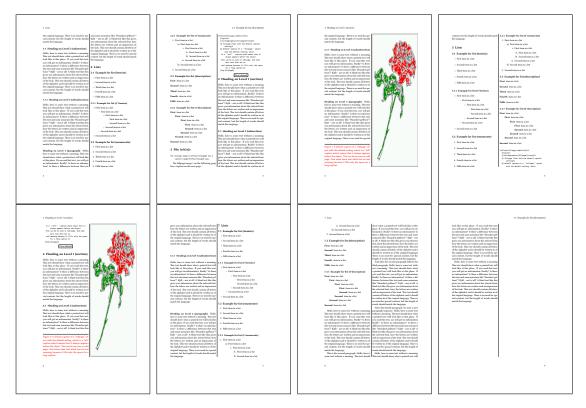


Figure 42: Output of left2s2c (pages 2-9)

18.1.1 Using capPos=after

The caption will be printed always right of the object which is the same as *after* the full page object. With capPos=after it is possible to get the caption in the twocolumn mode always in the right (second) column (see figure 44 on page 45)

```
\hvFloat[fullpage, capPos=after]{figure}%
{\includegraphics[fullpage]{images/rose}}%
[A float which needs the complete column width and height.]%
{A Caption of a ''fullpage'' object, which is on the left column.
This is always the right column on an even or odd page. And some more
```

18 Full page objects in twocolumn mode

```
text whch has no real meaning because it fills only the space for a long
caption.}%
{fig:fullpage1-2}
```

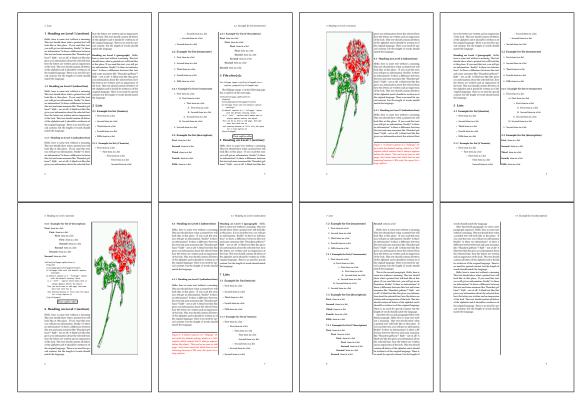


Figure 43: Output of after2s2c (pages 2-9)

The caption and the object can be on different pages (Figure 43). If you do not like this behaviour, then use the setting capPos=right instead of capPos=after. Figure right2s2c shows that caption and object in this case are always on the same page.

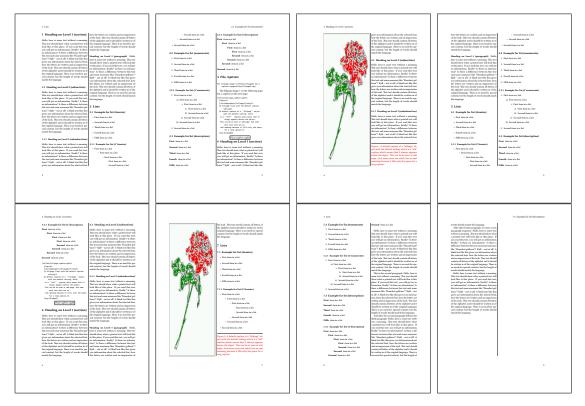


Figure 44: Output of right2s2c (pages 2-9)

18 Full page objects in twocolumn mode

18.1.2 Using capPos=evenPage – caption on an even page

There can be a problem if there is not enough space on the bottom of the even page. Then the caption will be on the next page which is an odd one. In such a case use a manually \clearpage or wait for an update of hvfloat.

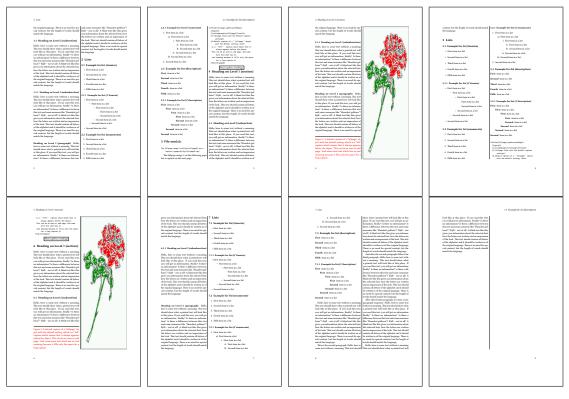


Figure 45: Output of even2s2c (pages 2-9)

18.1.3 Using capPos=oddPage – caption on an odd page

There can be a problem if there is not enough space on the bottom of the even page. Then the caption will be on the next page which is an odd one. In such a case use a manually \clearpage or wait for an update of hvfloat.

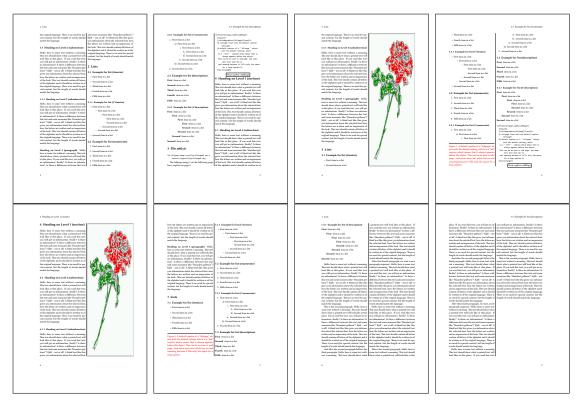


Figure 46: Output of odd2s2c (pages 2-9)

18 Full page objects in twocolumn mode

18.1.4 Using capPos=inner – caption in the inner column

The caption will be printed in the right column for an even page and in the left column for an odd page.

\hvFloat[fullpage,capPos=inner]{figure}{\includegraphics[fullpage]{images/rose}}%

[A float which needs the complete column width and height.] $\ensuremath{\$}$

{A Caption of a ''fullpage'' object, which follows on the left or right column.

This can be an even or odd page. And some more text whch has no

real meaning because it fills only the space for a long caption.}{fig:fullpage3-2}

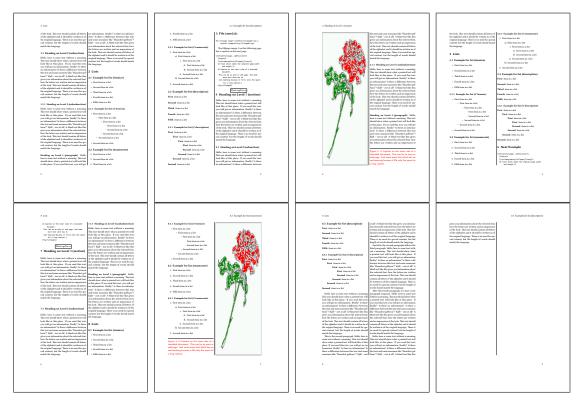


Figure 47: Output of inner2s2c (pages 2-9)

18.1.5 Using capPos=outer - caption on the outer column

The caption will be printed on the left column an odd page, the object can appear before or after this caption.

```
\hvFloat[fullpage, capPos=outer]{figure}%
{\includegraphics[fullpage]{images/rose}}%
[A float which needs the complete page width and height with \texttt{capPos=outer}.]%
{A Caption of a ''fullpage'' object, which has the caption position in the
outer page. This can be an even or odd page. And some more text whch has no
real meaning because it fills only the space for a long caption.}{fig:fullpage2-2a}
```

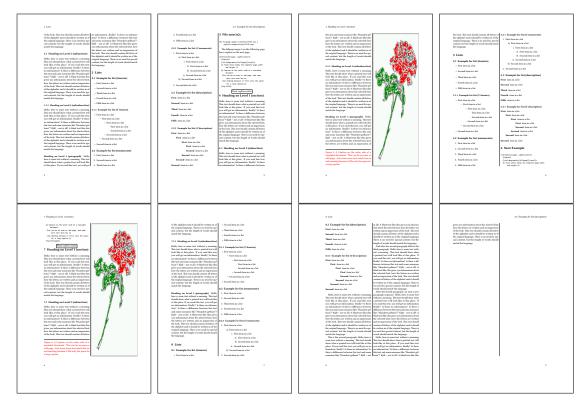


Figure 48: Output of outer2s2c (pages 2-9)

18 Full page objects in twocolumn mode

18.2 Using full page in twocolumn mode

With the star version of \hvfloat The object ist placed over both columns, the whole page. In such a case the only useful caption position is capPos=inner for *inner*.

\hvFloat*[fullpage, capPos=inner]{figure}%

{\includegraphics[FullPage]{images/rose}}%

- [A float which needs the complete page width and height with $\mathsf{texttt}{capPos=outer}.]$ %
- {A caption of a ''fullpage'' object in two column mode: It uses the star version
- of \textbackslash hvFloat. The object goes over both columns.}{fig:two}

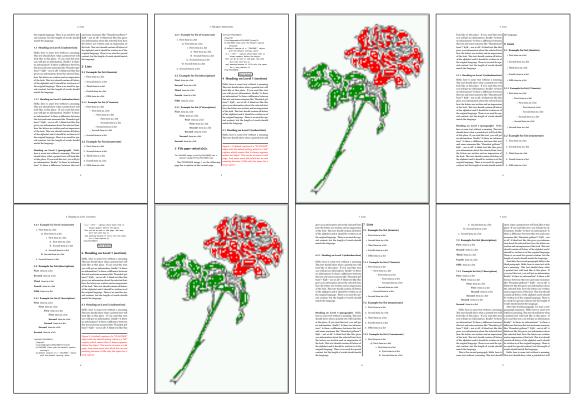


Figure 49: Output of paper-default2s2c (pages 2–9)

18.3 Multifloats

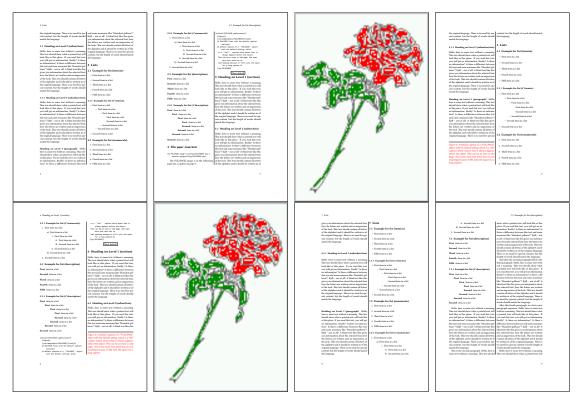


Figure 50: Output of paper-inner2s2c (pages 2–9)

18.3 Multifloats

Multifloats is the name for more than one image and/or tabular in *one* floating environment. Every image and/or tabular has its own caption, which is different to a subcaption. The + symbol defines an additional Object which will be part of the same floating environment. It's up too the user to be sure that one page or one column can hold all defined objects. Every object gets its own caption which is the reason why figures and tabulars and ... can be mixed:

```
\captionsetup{singlelinecheck=false}
\hvFloat[fullpage,multiFloat,capPos=inner]%
  +{figure}{\includegraphics[height=0.4\textheight]{images/rose}}% no 1
   [Short caption A]%
   {A Caption A of a ''fullpage'' object, which follows on the left or
   right column. This can be an even or odd page. And some more text whch has no
   real meaning because it fills only the space for a long caption.}%
   {multi:demo0}%
  +{table}{\begin{tabular}{lr}\hline
                                                     % no 2
           Linksbündig & Rechtsbündig\\
           L
                       & R
                                      \\
           left
                        & right
                                      \\
           \multicolumn{2}{c}{Multicolumn}\\\hline
```

```
\end{tabular}%
[Short Caption B]%
{A Caption B of a ''fullpage'' object, which follows on the left or
    right column. This can be an even or odd page.}%
{}%
+{figure}{\includegraphics[height=0.4\textheight]{images/rose}}% no 3
{A Caption C of a ''fullpage'' object, which follows on the left or
    right column.}%
{multi:demol}
```

The page with the objects has no additional informations it holds only the figures and/or tabulars. If you want it like subfigures or subtabulars then go to section 17 on page 39. The setting \captionsetup{singlelinecheck=false } is needed if you want the captions always left aligned.

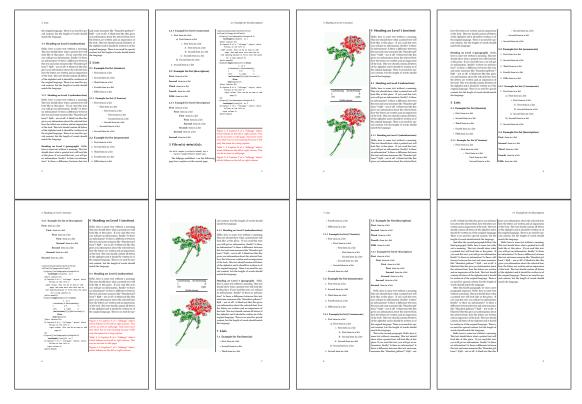


Figure 51: Output of multi-default2s2c (pages 2-9)

19 Subfloat page

A subfloat page can have only one type of floats which will have one main caption and individual subcaptions. Some arguments are ignored for a subfloat, one can leave them empty. The first line defines only the type and the main caption, the object entry is ignored! All aditional lines will have the same float type, the reason why the float type entry is ignored.

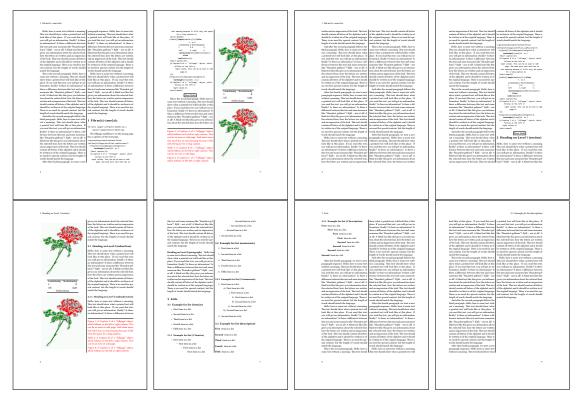


Figure 52: Output of multi-inner2s2c (pages 2-9)

```
\captionsetup[sub]{singlelinecheck}
```

```
\hvFloat[fullpage,capPos=before,objectFrame,subFloat]%
```

```
+{figure}{}[Short main caption of the objects]% main short lsi entry
{The main caption of a ''fullpage'' object, which follows on the left or
    right column. This can be an even or odd page. And some more text which has no
    real meaning because it fills only the space for a long caption.}% main caption
{sub:demo00}%
+{}{\includegraphics[height=0.28\textheight]{images/rose}}%
[Short caption B]%
{A Caption B of a ''fullpage'' sub object.}% subcaption
{}%
+{}{\includegraphics[height=0.28\textheight]{images/rose}}%
{A Caption C of a ''fullpage'' object, which follows on the left or right column.}%
{sub:demo10}
+{}{\includegraphics[height=0.28\textheight]{images/rose}}%
{A Caption D of a ''fullpage'' object}%
```

```
{sub:demo20}
```

The keyword subFloat defines the images or tabulars as subfloats. The package subcaption is loaded by default. For the subcaptions the singlelinecheck should be true (see listing).

19 Subfloat page

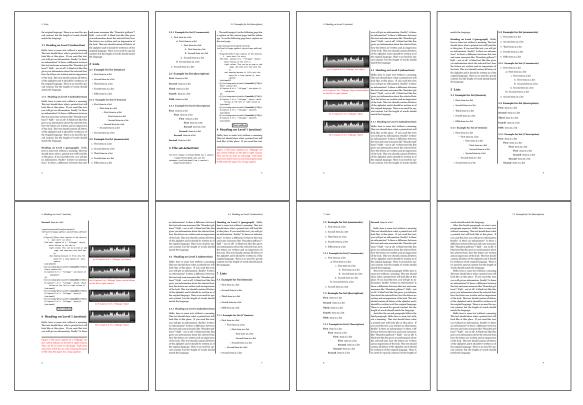


Figure 53: Output of sub-default2s2c (pages 2–9)

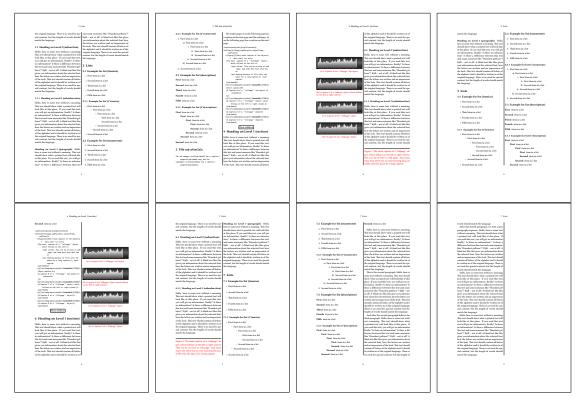


Figure 54: Output of sub-after2s2c (pages 2-9)

20 References to the page

With the command \pageref one can have a reference to the page number of a caption. For the fullpage option this can be the wrong page if someone wants a refere to the page where the object is set. Let's assume that we use something like

```
\setDefaults
\hvFloat[fullpage,capPos=evenPage]{figure}%
 {\IncludeGraphics{images/frose}}%
 [A float which needs the complete paper width and height.]%
 {A Caption of a ''fullpage'' object, which follows on the next page.
 This can be an even or odd page. The object uses the complete paper dimensions}%
 {demo:fullpage}
```

The label demo:fullpage is used for the *image* and not for the caption! Internally another label called demo:fullpage-cap is set on the caption page which can be before or behind the opject (depending to the optional argument of capPos). For example:

The caption of figure~\ref{demo:fullpage-cap} is on page~\pageref{demo:fullpage-cap}, but the image itself is on page~\pageref{demo:fullpage}.

The caption of figure 56 is on page 56, but the image itself is on page 57. With package varioref it is:

```
Whith the package \Lpack{varioref} (\url{https://ctan.org/pkg/varioref})
one can get something like: see figure~\vref{demo:fullpage}, which uses a
correct page number of the floatinmg object and not the caption
page number which is~\vpageref{demo:fullpage-cap}.
The figure~\ref{demo:fullpage} is on page~\pageref{demo:fullpage}
and the caption on page~\pageref{demo:fullpage-cap}
```

Whith the package varioref (https://ctan.org/pkg/varioref) one can get something like: see figure 56 on page 57, which uses a correct page number of the floating object and not the caption pagenumber which is on the next page. The figure 56 is on page 57 and the caption on page 56

21 Defining a style

With \defhvstyle one can define a special style to get rid of the individual setting:

```
\defhvstyle{name}{setting}
```

For example:

\defhvstyle{RightCaption}{floatPos=htb, capWidth=0.5, capPos=after, capVPos=bottom, objectPos=center}

```
\hvFloat[style=RightCaption]{figure}{\includegraphics{images/rose}}%
```

```
{Caption vertically centered right beside the float with a caption width of
\texttt{0.5\textbackslash columnwidth}.}{fig:style}
```

22 Global float setting

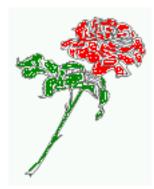


Figure 55: Caption at bottom right beside the float with a caption width of 0.5\columnwidth.

22 Global float setting

Instead of writing the following sequence into the preamble:

```
\makeatletter
\renewcommand\fps@figure{tb}
\renewcommand\fps@table{t}
\makeatother
```

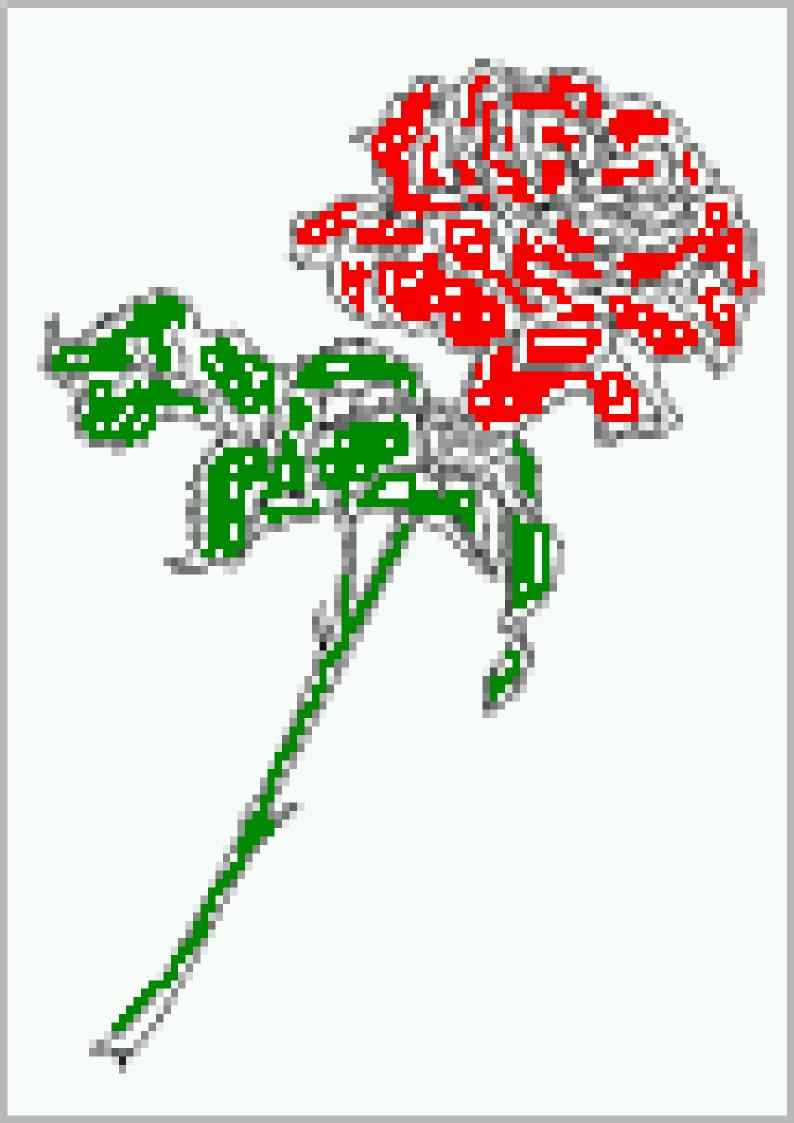
you can change the global setting of floats by loading the package hvfloat-fps. It allows optional package options to set the global placement:

```
\usepackage[figure=tb,table=t]{hvfloat-fps}
```

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Figure 56: A Caption of a "fullpage" object, which follows on the next page. This can be an even or odd page. The object uses the complete paper dimensions



22 Global float setting

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

And after the second paragraph follows the third paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

After this fourth paragraph, we start a new paragraph sequence. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like "Huardest gefburn"? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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```
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1
    %%
2
    \NeedsTeXFormat{LaTeX2e}
3
   \ProvidesPackage{hvfloat}[2019/02/03 rotating of floating objects]
4
    20
5
    %% IMPORTANT NOTICE:
6
    <del>%</del>%
7
    %% This is file 'hvfloat.sty',
8
9
   20
   %% Herbert Voss <hvoss@tug.org>
10
11 %%
   %% This program can be redistributed and/or modified under the terms
12
   %% of the LaTeX Project Public License Distributed from CTAN archives
13
14 %% in directory macros/latex/base/lppl.txt.
15
   20
   %% DESCRIPTION:
16
         'hvfloat' offers rotating of captions and objects for floats
   20
17
    <u>%</u>%
18
   \def\fileversion{2.12a}
19
    \def\filedate{2019/04/07}
20
    \message{'hvfloat' v\fileversion, \filedate\space (Herbert Voss)}
21
22
   \let\hvFileVersion\fileversion
23
    %
   \newif\ifhv@fbox \hv@fboxfalse
24
    \newif\ifhv@hyperref \hv@hyperreffalse
25
    \DeclareOption{fbox}{\hv@fboxtrue\setlength{\fboxsep}{1pt}}
26
   \DeclareOption{hyperref}{\hv@hyperreftrue}
27
28
   \ProcessOptions
29
30
   \PassOptionsToPackage{hypcap}{caption}
31
   \RequirePackage{caption}
32
   \PassOptionsToPackage{hypcap}{subcaption}
33
   \RequirePackage{subcaption}
34
35
   \RequirePackage{atbegshi}
36
    \RequirePackage{expl3,multido}
37
    \RequirePackage{graphicx}
38
39
    \RequirePackage{xkeyval}
40
    \RequirePackage{ifoddpage}
41
    \RequirePackage{afterpage}
42
    %\RequirePackage{zref-abspos}
43
44
   \ifhv@hyperref
45
     \RequirePackage{hyperref}
46
   % \RequirePackage{hypcap}
47
   ∖fi
48
    %
49
   %\unitlength=1cm
50
   \providecommand*\LenToUnit[1]{\strip@pt\dimexpr#1*\p@/\unitlength}
51
```

52 \newlength\hv0bjectWidth 53 54 \newlength\hvCapWidth 55 \newlength\hvWideWidth \newlength\hvMultiFloatSkip 56 \newlength\hvMaxCapWidth 57 %\newlength\hv@BottomSpace 58 %\AtBeginDocument{% 59 % \setlength\hv@BottomSpace{\dimexpr\paperheight-lin-\topmargin-\headheight-\headsep-\textheight}} 60 61 \newsavebox\hv0bjectBox 62 \newsavebox\hvCaptionBox 63 \newsavebox\hv0Box 64 \newsavebox\@tempbox 65 66 \newsavebox\hv@caption@box 67 \newif\ifhv@capbeside \hv@capbesidefalse 68 69 **def**\hv@Top{top} 70 71 **def**\hv@Bottom{bottom} **def**\hv@After{after} 72 73 **def**\hv@Before{before} \def\hv@Right{right} 74 75 **def**\hv@Left{left} 76 **def**\hv@Center{center} 77 \def\hv@Outer{outer} \def\hv@Inner{inner} 78 \def\hv@Even{evenPage} 79 **def**\hv@Odd{oddPage} 80 **def**\hv@Natural{n} 81 **def**\hv@Width{w} 82 **def**\hv@Height{h} 83 84 **def**\hv@Zero{0} 85 % 86 **def**\hv@figure{figure} 87 % \define@key{hvSet}{floatPos}[htbp]{% LaTeX's position parameters htbp 88 $\label{eq:lostPos} $$ \eqref{table} $$$ 89 } 90 rotates caption AND image together \define@key{hvSet}{rotAngle}[0]{% 91 **def**\hvSet@rotAngle{#1}% 92 } 93 \define@key{hvSet}{capWidth}[n]{% (n)atural width|object (w)idth)|object (h)eight|<scale of \columnwidth</pre> 94 95 \def\hvSet@capWidth{#1}% 96 } 97 \define@key{hvSet}{capAngle}[0]{% -360..+360 98 99 } \define@key{hvSet}{capPos}[bottom]{% (l)eft|(b)ottom|(t)op|(r)ight|(i)nner|(o)uter|(e)ven|o(d)d 100 it is relativ to the object, (e),(d) only valid for fullpage float **def**\hvSet@capPos{#1}% 101 \edef\@tempa{#1}% 102 \ifx\hv@Bottom\@tempa 103

```
\hv@capbesidefalse
104
             \else
105
                 \ifx\hv@Top\@tempa
106
107
                     \hv@capbesidefalse
108
                 \else
                     \hv@capbesidetrue
109
                 \fi
110
             \fi
111
112
        }
         \define@key{hvSet}{capVPos}[center]{%
                                                                                            bottom|center|top
113
               \def\hvSet@capVPos{#1}%
                                                                         it is relativ to the object
114
         }
115
         \define@key{hvSet}{objectPos}[center]{%
                                                                                                  (l)eft|(c)enter|(r)ight|(i)nner|(o)uter
116
               \def\hvSet@objectPos{#1}%
                                                                         it is relativ to the document
117
         }
118
         \define@key{hvSet}{objectAngle}[0]{%
                                                                                             -360..+360
119
120
               \def\hvSet@objectAngle{#1}%
        }
121
         \define@key{hvSet}{floatCapSep}[5]{%
                                                                                            a width with the unit pt
122
               \def\hvSet@floatCapSep{#1}%
123
        }
124
         \define@key{hvSet}{multiFloatSkip}[\normalbaselineskip]{% a width with the unit pt
125
               \setlength\hvMultiFloatSkip{#1}%
126
        }
127
        \define@boolkey{hvSet}[hv@]{useOBox}[true]{}%
                                                                                                              use of the hvOBox contents
128
         \define@boolkey{hvSet}[hv@]{nonFloat}[true]{}%
                                                                                                              Do not use float environment
129
         \define@boolkey{hvSet}[hv@]{onlyText}[true]{}%
                                                                                                              Write the caption only as text
130
         \define@boolkey{hvSet}[hv@]{wide}[true]{}%
                                                                                                        Write the caption only as text
131
         \define@boolkey{hvSet}[hv@]{fullpage}[true]{}%
                                                                                                              fullpage float with caption on other page
132
         %\define@boolkey{hvSet}[hv@]{FullPage}[true]{}%
                                                                                                              fullpage float with caption on other page
133
         \define@boolkey{hvSet}[hv@]{FULLPAGE}[true]{}%
                                                                                                          fullpage float with caption on other page
134
         \define@boolkey{hvSet}[hv@]{subFloat}[true]{%
                                                                                                              typeset values as subfloats
135
               \ifhv@subFloat\setkeys{hvSet}{multiFloat=false}\fi%
136
         }%
137
         \define@boolkey{hvSet}[hv@]{multiFloat}[true]{%
                                                                                                              typeset values as continous floats
138
139
               \ifhv@multiFloat\setkeys{hvSet}{subFloat=false}\fi%
140
         }%
         \define@boolkey{hvSet}[hv@]{separatorLine}[true]{}% separator line for caption of a full page float
141
         \define@boolkey{hvSet}[hv@]{objectFrame}[true]{}% a frame around the object with no separation
142
         \define@key{hvSet}{style}{%
143
             \@ifundefined{hv@#1}%
144
                 {\errmessage{Custom style '#1' undefined}}%
145
                 {\begingroup
146
                   \edef\x{\endgroup\noexpand\setkeys{hvSet}{\@nameuse{hv@#1}}}\x}% use a defined style
147
148
        }
         \def\hv@set#1{\begingroup\edef\x{\endgroup\noexpand\setkeys{hvSet}{#1}}\x}
149
         \let\hvFloatSet\hv@set
150
151
         %
         \ensuremath{\line \line \lin
152
153
         %
         \newcommand{\setDefaults}{%
154
              \hv@set{%
155
```

156 floatPos=htbp, rotAngle=0, capWidth=n, capAngle=0,

```
capPos=bottom, capVPos=center, objectPos=center, objectAngle=0,
157
        floatCapSep=5, useOBox=false, nonFloat=false,
158
        onlyText=false, wide=false, fullpage=false, FULLPAGE=false,
159
160
             multiFloat=false,subFloat=false,
        separatorLine,objectFrame=false,multiFloatSkip=\normalbaselineskip,
161
162
    }%
163
    }
    \newcommand\reset@special@float{%
164
       \hv@set{subFloat=false,fullpage=false,multiFloat=false,FULLPAGE=false}}
165
166
    \def\hv@vskip{\vspace{\hvMultiFloatSkip}}
167
168
169
    \newlength\hvAboveCaptionSkip
170
171
    \newlength\hvBelowCaptionSkip
    \newcount\hv@@capPos
172
173
    \newlength\fboxlinewidth
174
    \AtBeginDocument{%
175
       \setlength\fboxlinewidth{\dimexpr\linewidth-2\fboxrule-2\fboxsep}%
176
    }
177
    \setlength\belowcaptionskip{\abovecaptionskip}% it is in latex.ltx = Opt
178
    \newcommand\saveCaptionSkip{%
179
        \setlength{\hvAboveCaptionSkip}{\abovecaptionskip}
180
181
        \setlength{\hvBelowCaptionSkip}{\belowcaptionskip}
182
        \setlength{\abovecaptionskip}{0pt}
        \setlength{\belowcaptionskip}{0pt}
183
184
    }
    \newcommand{\restoreCaptionSkip}{%
185
       \setlength\abovecaptionskip{\hvAboveCaptionSkip}%
186
       \setlength\belowcaptionskip{\hvBelowCaptionSkip}%
187
    }
188
189
    %
    \newcommand\figcaption[2][]{\def\@captype{figure}%
190
191
       \begingroup\ifx\relax#1\relax \caption{#2}\else\caption[#1]{#2}\fi\endgroup}
192
    \newcommand\tabcaption[2][]{\def\@captype{table}%
       \begingroup\ifx\relax#1\relax \caption{#2}\else\caption[#1]{#2}\fi\endgroup}
193
    %
194
    \newlength\hv@maxImageWidth
195
    \AtBeginDocument{\hv@maxImageWidth=\columnwidth}
196
197
     \define@key{Gin}{fullpage}[true]{%
198
       \def\Gin@ewidth{\columnwidth}%
199
       \def\Gin@eheight{\textheight}%
200
       \Gin@boolkey{false}{iso}%
201
202
    }
    \define@key{Gin}{FullPage}[true]{%
203
204
       \def\Gin@ewidth{\textwidth}%
205
       \def\Gin@eheight{\textheight}%
       \Gin@boolkey{false}{iso}%
206
207
    }
    \define@key{Gin}{FULLPAGE}[true]{%
208
       \def\Gin@ewidth{\paperwidth}%
209
```

```
\def\Gin@eheight{\paperheight}%
210
                \Gin@boolkey{false}{iso}%
211
          }
212
           \newcommand\IncludeGraphics[2][]{%
213
214
           % \newpage
215
           %\iffalse
                \vspace*{\the\dimexpr-lin-\voffset+\topskip-\headheight-0.5\baselineskip}%
216
                \leavevmode\checkoddpage
217
                \ifoddpage
218
                     \hspace*{\dimexpr-\oddsidemargin-\parindent-lin}%
219
                 \else
220
                     \hspace*{\dimexpr-\evensidemargin-\parindent-lin}%
221
222
                 \fi\noindent
                \includegraphics[#1,width=\paperwidth,height=\paperheight,keepaspectratio=false]{#2}%
223
224
           %\fi
           % \includepdf[#1]%, width=\paperwidth, height=\paperheight, keepaspectratio=false]
225
226
           % {#2}%
          }
227
228
           \newcommand\put@CaptionBox[1][0]{%
229
                \ifcase#1
230
                     \ifhv@fbox
231
                         \fbox{\parbox{\wd\hvCaptionBox}{\usebox{\hvCaptionBox}}}%
232
233
                     \else
234
                         \parbox{\wd\hvCaptionBox}{\usebox{\hvCaptionBox}}%
235
                     ∖fi
236
                \or
                     \ifhv@fbox
237
                         \fbox{\raisebox{-\height}{\usebox{\hvCaptionBox}}}%
238
                     \else
239
                         \raisebox{-\height}{\usebox{\hvCaptionBox}}%
240
                     ∖fi
241
                \or
242
                     \ifhv@fbox\fbox{\usebox{\hvCaptionBox}}\else\usebox{\hvCaptionBox}\fi
243
244
                \fi
245
           }
246
           \newcommand\put@ObjectBox[1][0]{%
247
                \ifcase#1
248
                     \ifhv@fbox
249
                         \fbox{\parbox{\wd\hv0bjectBox}{\usebox{\hv0bjectBox}}%
250
                     \else
251
                          \parbox{\wd\hv0bjectBox}{\ifhv@objectFrame\frame{\usebox{\hv0bjectBox}}\else\usebox{\hv0bjectBox}\fi}%
252
                     ∖fi
253
                \or
254
255
                     \ifhv@fbox
256
                         \fbox{\raisebox{-\height}{\usebox{\hvObjectBox}}}%
257
                     \else
                         \label{linear} \lab
258
                     \fi
259
260
                \or
                     \ifhv@fbox
261
                         \fbox{\usebox{\hv0bjectBox}}%
262
```

```
\else
263
                          \ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi%
264
                     ∖fi
265
266
                ∖fi
267
           }
268
            \newif\ifhv@star
269
           \newif\if@hvsubstar
270
           \setDefaults
271
272
            \def\hvFloat{\@ifnextchar*%
                                                                                         Main macro
273
                 {\hv@startrue\hv@maxImageWidth=\textwidth\hvFloat@i}%
274
                 {\hv@starfalse\hv@maxImageWidth=\columnwidth\hvFloat@i*}%
275
           }
276
277
           %\newcommand*{\hvFloat}[5][]+{%
278
           % [#1}: keyvalues
279
           % #2: type figure | table | ...
280
          % #3: float contents
281
           % [#4]: short caption
282
283
           % #5: caption
           % #6: label
284
285
           %
           \def\hvFloat@i*{\@ifnextchar[{\do@hvFloat}{\do@hvFloat[]}}
286
287
           288
289
                \begingroup
                \setlength\hvWideWidth{\dimexpr\linewidth+\marginparwidth}%
290
                \hv@maxImageWidth=\textwidth
291
                \hv@capbesidefalse
292
                \reset@special@float
293
                \setcounter{hv@pfigure}{\value{figure}}%
294
295
                \setcounter{hv@ptable}{\value{table}}%
                 \gdef\hv@save@setting{#1}%
296
297
                \ifx\relax#1\relax\else\setkeys{hvSet}{#1}\fi
298
                 \gdef\hv@floatType{figure}%
                 \@ifnextchar+{\do@multiFloat}{\hvFloat@ii[#1]}}
299
300
            \ExplSyntaxOn
301
302
           \def\do@multiFloat+#1#2{%
303
                \clist_set:Nn\l_clist_Type{{#1}}%
304
                \clist set:Nn\l clist Object{{#2}}%
305
                 \@ifnextchar[\do@multiFloat@i{\do@multiFloat@i[]}%
306
307
          }
           \label{eq:linear} $$ def\do@multiFloat@i[#1]#2#3{% $ lof-caption, caption, label $ approx a
308
309
                \ifx\relax#1\relax
310
                     \clist_set:Nn\l_clist_LofCaption{{}}%
311
                \else
                     \clist_set:Nn\l_clist_LofCaption{{#1}}%
312
                 \fi
313
                \clist_set:Nn\l_clist_Caption{{#2}}%
314
                \ifx\relax#3\relax
315
```

```
\clist_set:Nn\l_clist_Label{{}}%
316
                  \else
317
318
                      \clist_set:Nn\l_clist_Label{{#3}}%
                  \fi
319
                  \@ifnextchar+{\do@multiFloat@ii}{}%
320
321
           }
            \def\do@multiFloat@ii+#1#2{%
322
                  \clist_put_right:Nn\l_clist_Type{{#1}}%
323
                  \clist_put_right:Nn\l_clist_Object{{#2}}%
324
                  \@ifnextchar[\do@multiFloat@iii{\do@multiFloat@iii[]}%
325
            }
326
 327
             \def\do@multiFloat@iii[#1]#2#3{% lof-caption, caption, label
328
                 \ifx\relax#1\relax
 329
330
                      \clist_put_right:Nn\l_clist_LofCaption{{}}%
                  \else
331
                      \clist_put_right:Nn\l_clist_LofCaption{{#1}}%
332
                  \fi
333
                  \clist_put_right:Nn\l_clist_Caption{{#2}}%
334
                  \ifx\relax#3\relax
335
                      \clist_put_right:Nn\l_clist_Label{{}}%
336
337
                  \else
                      \clist_put_right:Nn\l_clist_Label{{#3}}%
338
339
                  \fi
                  \@ifnextchar+\do@multiFloat@ii%
340
341
                       {\def\hvSet@CapWidth{n}%
                         \do@@@@hvFloat}%
342
343
            }
            \ExplSyntaxOff
344
345
346
            \newcounter{hv@pfigure}
347
             \newcounter{hv@ptable}
348
             \newcounter{subhv@pfigure}
349
 350
            \newcounter{subhv@ptable}
351
            \def\drawSepLine{%
352
353
                 \par\noindent
                 \label{linewidth} \label{lin
354
                  \vspace{0pt}%
355
           }
356
357
            \newcount\hv@cnta
358
            \newcount\hv@cntb
359
360
361
362
            \def\hvFloat@ii[#1]#2#3{%
363
                 \hv@maxImageWidth=\textwidth
364
                  \hv@capbesidefalse
                  \ifx\relax#1\relax\else\setkeys{hvSet}{#1}\fi
365
                  \gdef\hv@floatType{#2}%
366
                  \ifx\relax#2\relax \setkeys{hvSet}{nonFloat=true}\fi
367
                  \gdef\hv@floatObject{#3}%
368
```

```
\@ifnextchar[{\do@hvFloat}{\do@hvFloat[]}%
369
    }
370
     \fill do@hvFloat[#1]#2#3{%}
371
372
       \gdef\hv@shortCap{#1}%
373
       \gdef\hv@longCap{#2}%
374
       \gdef\hv@label{#3}%
       \ifhv@fullpage
375
         \def\hvSet@CapWidth{n}% relative value
376
         \do@@@@hvFloat% fullpage with caption on other page
377
       \else
378
         \ifhv@FULLPAGE
379
           \def\hvSet@CapWidth{n}% relative value
380
           \do@@@hvFloat% fullpage with caption on other page
381
         \else
382
383
           \do@@@hvFloat
         \fi
384
       \fi
385
    }
386
     %
387
     \def\do@@hvFloat{% no special float page
388
       \def\@tempa{90}%
389
       \ifx\hvSet@rotAngle\@tempa
390
         \setlength\hvMaxCapWidth{\textheight}%
391
       \else
392
         \setlength\hvMaxCapWidth{\hvWideWidth}%
393
394
       ∖fi
395
    %
    \% First we save the object in <code>\hv0bjectBox</code>
396
    %
397
      \ifx\hvSet@objectAngle\hv@Zero % rotate the object?
398
         \savebox{\hvObjectBox}{\ifhv@useOBox\usebox{\hvOBox}\else\hv@floatObject\fi}%
399
       \else
400
401
         \savebox{\hv0bjectBox}{%
           \rotatebox{\hvSet@objectAngle}{%
402
403
             \ifhv@use0Box\usebox{\hv0Box}\else\hv@float0bject\fi
404
           }%
405
         }%
       \fi
406
       \setlength\hv0bjectWidth{\wd\hv0bjectBox}%
407
     %
408
     % Now we save the caption with its defined \hvCapWidth
409
     %
410
       \ifx\hvSet@capWidth\hv@Width%
                                                       captionwidth=objectwidth
411
         \setlength\hvCapWidth{\hvObjectWidth}%
412
       \else
413
414
         \ifx\hvSet@capWidth\hv@Height%
                                                       captionwidth=objectheight
415
           \setlength\hvCapWidth{\ht\hvObjectBox}%
416
         \else
           \ifx\hvSet@capWidth\hv@Natural%
                                                       captionwidth=\linewidth-\objectwidth-separation
417
             \ifhv@capbeside
418
419
               \ifhv@wide
                 \setlength\hvCapWidth{\the\dimexpr\hvWideWidth-\hvObjectWidth-\hvSet@floatCapSep pt\relax}%
420
               \else
421
```

422	\setlength\hvCapWidth{\ the \dimexpr\ columnwidth -\hvObjectWidth-\hvSet@floatCapSep pt\ relax }%
423	\fi
424	\else
425	\setlength\hvCapWidth{\ columnwidth }%
426	\fi
427	\else
428	\ifhv@capbeside
429	\ifhv@wide
430	\setlength\hvCapWidth{\hvSet@capWidth\hvWideWidth}%
431	\setlength\@tempdima{\ the \dimexpr\hvWideWidth-\hvObjectWidth-\hvSet@floatCapSep pt\ relax }%
432	\else
433	\setlength\hvCapWidth{\hvSet@capWidth\ columnwidth }%
434	\setlength\@tempdima{\ the \dimexpr\ columnwidth -\hvObjectWidth-\hvSet@floatCapSep pt\ relax }%
435	\fi
436	\ ifdim \hvCapWidth>\@tempdima
437	\setlength\hvCapWidth{\@tempdima}%
438	\fi
439	\else
440	\ifhv@wide
441	\setlength\hvCapWidth{\hvSet@capWidth\hvWideWidth}%
442	\else
443	\setlength\hvCapWidth{\hvSet@capWidth\ columnwidth }%
444	\fi
445	\fi
446	\fi
447	\fi
448	\fi
449	\saveCaptionSkip % we put this space ourselve
450	\ ifx \hvSet@capAngle\hv@Zero % need rotation?
451	\ sbox % NO rotation
452	<pre>\begin{minipage}[b]{\hvCapWidth}% minipage, to get hyphenation</pre>
453	\ifhv@nonFloat
454	\ifhv@onlyText\hv@longCap
455	\else
456	\ ifx \hv@floatType\hv@figure
457	\ ifx\relax \hv@shortCap\ relax \figcaption{\hv@longCap}\ else \figcaption[\hv@shortCap]{\hv@longCap}\fi
458	\else
459	\ ifx\relax \hv@shortCap\ relax \tabcaption{\hv@longCap}\ else \tabcaption[\hv@shortCap]{\hv@longCap}\ fi
460	\fi
461	\fi \elea
462	\else \let\@captype\hv@floatType
463	\expandafter\ifx\expandafter\relax\hv@shortCap\relax \caption{\hv@longCap}\else\caption[\
464	hv@shortCap]{\hv@longCap}{fi
465	\fi
466	\expandafter\label\expandafter{\hv@label}%
400	\end{minipage}%
468	}%
400	\else
409	\sbox% Rotation
471	\rotatebox{\hvSet@capAngle}{%
472	\begin{minipage}[b]{\hvCapWidth}% minipage, to get hyphenation
473	\ifhv@nonFloat

```
\ifhv@onlyText\hv@longCap
474
          \else
475
            \ifx\hv@floatType\hv@figure
476
              \ifx\relax\hv@shortCap\relax \figcaption{\hv@longCap}\else\figcaption[\hv@shortCap]{\hv@longCap}\fi
477
478
            \else
              \ifx\relax\hv@shortCap\relax \tabcaption{\hv@longCap}\else\tabcaption[\hv@shortCap]{\hv@longCap}\fi
479
            \fi
480
          ∖fi
481
        \else
482
               \let\@captype\hv@floatType
483
               \expandafter\ifx\expandafter\relax\hv@shortCap\relax \caption{\hv@longCap}\else\caption[\
484
                     hv@shortCap]{\hv@longCap}\fi
             \fi
485
             \label{\hv@label}%
486
487
             \end{minipage}%
           }% rotatebox
488
         }% \sbox
489
       \fi
490
     %
491
     % now we have the object and the caption with the right
492
     % rotated angles saved in different boxes
493
     %%
494
       \restoreCaptionSkip% save old values
495
       \def\fps@figure{\hvSet@floatPos}%
496
497
       \ifhv@nonFloat
                              Start the nonfloat part
498
         \begingroup%
499
         \checkoddpage
       \else
500
         \begin{\hv@floatType}%
                                    Start the floating environment
501
         \checkoddpage
502
       \fi
503
       \ifx\hvSet@objectPos\hv@Right\raggedleft\fi
504
       \ifx\hvSet@objectPos\hv@Center
505
         \ifhv@nonFloat\hspace*{\fill}\else\centering\fi
506
507
       \fi
       \ifx\hvSet@objectPos\hv@Outer
508
         \ifoddpage\raggedleft\fi
509
       \fi
510
       \ifx\hvSet@objectPos\hv@Inner
511
         \ifoddpage\else\raggedleft\fi
512
       \fi
513
    %
514
     % to rotate object and caption together, we save all in another box
515
     % the caption comes first, if its on the left or the top
516
     % O caption left, inner and odd page, oneside inner
517
     % 1 caption top
518
519
     \% 2 caption right, inner and even page, oneside outer
    % 3 caption bottom
520
521
    %
       \ifx\hvSet@capPos\hv@Left
522
         \hv@@capPos=0
523
       \else
524
         \ifx\hvSet@capPos\hv@Top
525
```

526	\hv@capPos=1
527	\else
528	\ ifx \hvSet@capPos\hv@Right
529	\hv@capPos=2
530	\else
531	\ ifx \hvSet@capPos\hv@Bottom
532	\hv@capPos=3
533	\else
534	\ ifx \hvSet@capPos\hv@Inner
535	\ifoddpageoroneside\hv@@capPos=0\ else \hv@@capPos=2\ fi
536	\else
537	\ ifx \hvSet@capPos\hv@Outer
538	\ifoddpageoroneside\hv@capPos=2\ else \hv@capPos=0\ fi
539	\else
540	\ ifx \hvSet@capPos\hv@Before
541	<pre>\hv@capPos=0 % same as cappos=right</pre>
542	\else
543	\ ifx \hvSet@capPos\hv@After
544	<pre>\hv@@capPos=2 % same as capPos=right</pre>
545	\fi
546	\fi
547	\fi
548	\fi
549	\fi
550	\fi
551	\fi
552	\fi
553	6.0.0.0 00000
554	\savebox{\@tempboxa}{%
555	\ expandafter\ifcase\the \hv@capPos % 0 is LEFT START \ifcase
556	\ ifx \hvSet@capVPos\hv@Center
557	\put@CaptionBox
558	<pre>\hspace{\hvSet@floatCapSep pt}% capfloatsep</pre>
559	\put@ObjectBox
560	\else
561	\ifx \hvSet@capVPos\hv@Top% caption and object at top aligned
562	<pre>\put@CaptionBox[1]</pre>
563	<pre>\hspace{\hvSet@floatCapSep pt}% capfloatsep</pre>
564	\put@ObjectBox[1]
565	\else% caption on bottom
566	\put@CaptionBox[2]
567	<pre>\hspace{\hvSet@floatCapSep pt}% capfloatsep</pre>
568	\put@ObjectBox[2]
569	\fi
570	\fi% end caption left
571	\or %1 is top
572	\ ifdim \w d \hvCaptionBox>\w d \hvObjectBox
573	\ begin {minipage}{\ wd \hvCaptionBox}%
574	\else
575	\ begin {minipage}{\ wd \hv0bjectBox}%
576	\fi
577	\centering
578	\ifhv@fbox

```
\fbox{\usebox{\hvCaptionBox}}\\[\hvBelowCaptionSkip]%
579
        \fbox{\usebox{\hvObjectBox}}%
580
581
           \else
        \usebox{\hvCaptionBox}\\[\hvBelowCaptionSkip]%
582
        \usebox{\hvObjectBox}%
583
584
           ∖fi
           \end{minipage}%
585
         \or %2 is right
586
           \ifx\hvSet@capVPos\hv@Center
587
             \put@ObjectBox
588
        \hspace{\hvSet@floatCapSep pt}%
589
        \put@CaptionBox
590
           \else
591
        \ifx\hvSet@capVPos\hv@Top
592
593
               \put@ObjectBox[1]
               \hspace{\hvSet@floatCapSep pt}% capfloatsep
594
595
               \put@CaptionBox[1]
        \else
596
               \put@ObjectBox[2]
597
               \hspace{\hvSet@floatCapSep pt}% capfloatsep
598
               \put@CaptionBox[2]
599
        ∖fi
600
           \fi
601
         \or %3 bottom
602
           603
604
             \begin{minipage}{\wd\hvCaptionBox}%
           \else
605
             \begin{minipage}{\wd\hvObjectBox}%
606
           \fi
607
           \centering
608
           \ifhv@fbox
609
             \fbox{\usebox{\hv0bjectBox}}\\[\hvAboveCaptionSkip]%
610
611
               \fbox{\usebox{\hvCaptionBox}}%
             \else
612
               \ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi\\[\hvAboveCaptionSkip]%
613
614
               \usebox{\hvCaptionBox}%
             \fi
615
           \end{minipage}
616
        \fi% \ifcase\the\hv@@capPos
617
      }% End savebox Object and caption
618
    %
619
    % now we rotate the object and caption, if needed
620
     %
621
       \ifhv@wide
622
         \ifoddpageoroneside\else\ifoddpage\else\hspace*{-\marginparwidth}\fi\fi% <- for wide and left page</pre>
623
624
       ∖fi
       ifx\hvSet@rotAngle\hv@Zero
625
626
         \usebox{\@tempboxa}%
627
       \else
        \rotatebox{\hvSet@rotAngle}{\usebox{\@tempboxa}}%
628
       \fi
629
       \ifhv@nonFloat
630
         \ifx\hvSet@objectPos\hv@Center
631
```

```
\ifhv@nonFloat
632
          \hspace{\fill}%
633
           ∖fi
634
635
         ∖fi
         \endgroup% End the nonfloat part
636
       \else
637
         \end{\hv@floatType}% End the floating environment
638
       \fi
639
       \endgroup% startet at main \hvFloat
640
    }
641
     %
642
     \newenvironment{hvFloatEnv}[1][\textwidth]
643
       {\minipage{#1}\center}
644
       {\endcenter\endminipage}
645
646
    %
647
     \ExplSyntaxOn
648
     \let\clist@item@Nn\clist_item:Nn
649
     \let\l@clist@Type\l_clist_Type
650
     \let\l@clist@LofCaption\l_clist_LofCaption
651
     \let\l@clist@Label\l clist Label
652
     \let\clist@count@N\clist_count:N
653
     \ExplSyntax0ff
654
655
     \def\do@@@hvFloat{% special float page: caption <-> fullpage image
656
       \ifx\hvSet@capPos\hv@After \hv@capPos=1
657
658
       \else
         \ifx\hvSet@capPos\hv@Even \hv@capPos=2
659
         \else
660
           \ifx\hvSet@capPos\hv@Odd
                                       \hv@@capPos=3
661
           \else
662
             \ifx\hvSet@capPos\hv@Inner
                                           \hv@@capPos=4
663
             \else
664
               \ifx\hvSet@capPos\hv@Outer
                                             \hv@@capPos=5
665
               \else
666
                 \ifx\hvSet@capPos\hv@Right
                                               \hv@capPos=6 % only for twocolumn mode
667
668
                 \else
                   \ifx\hvSet@capPos\hv@Left \hv@capPos=7 % only for twocolumn mode
669
                   \else
670
                      \hv@@capPos=0
671
                   ∖fi
672
                 ∖fi
673
               \fi
674
             ∖fi
675
676
           ∖fi
677
         ∖fi
678
       ∖fi
679
       \checkoddpage
       \set@caption@object% set caption and object into a box
680
       \ifcase\hv@capPos% caption before object 0-> _always_ left
681
         \setBottomCaption\setPageObject
682
                              caption after object 1-> _always_ right
       \or%
683
         \setPageObject\setBottomCaption
684
```

685	\ or º	caption on even page 2-> left page				
686	\i	foddpage				
687	\afterpage{\setBottomCaption\setPageObject}%					
688	\e	e lse % we are on an even page				
689	%	\zsaveposy{hv@currentPos}%				
690	%	\ifdim\the\dimexpr\zposy{hv@currentPos}sp-\hv@BottomSpace-1cm>\ht\TBox % enough space*				
691		\setBottomCaption\setPageObject				
692	20	lelse				
693	20	\afterpage{\afterpage{\setBottomCaption\setPageObject}}%				
694	90	\fi				
695	\1	i				
696	\or ⁹	s caption on odd page 3->right page				
697	\i	f@twoside				
698		\if@twocolumn				
699		\ifoddpage				
700		\if@firstcolumn% on right side				
701		\setBottomCaption\setPageObject				
702		\else				
703		<pre>\afterpage{\setPageObject\setBottomCaption}% start next column</pre>				
704		\fi				
705		\else% left (even) page				
706		\if@firstcolumn				
707		<pre>\afterpage{\setPageObject\setBottomCaption}% start next column</pre>				
708		\else				
709		\setPageObject\setBottomCaption				
710		\fi				
711		\fi				
712		\else % onecolumn				
713		<pre>\ifoddpage \setPageObject\setBottomCaption</pre>				
714 715		\else				
716		<pre>\afterpage{\setPageObject\setBottomCaption}%</pre>				
717		\fi				
718		\fi				
719	\e	vlse % oneside				
720		\if@twocolumn				
721		\ifoddpage				
722		\if@firstcolumn% on right side				
723		\setBottomCaption\setPageObject				
724		\else				
725		\setPageObject\setBottomCaption				
726		\fi				
727		\else				
728		\if@firstcolumn% on left side				
729		\afterpage{\setPageObject\setBottomCaption}%				
730		\else				
731		\setPageObject\setBottomCaption				
732		\fi				
733		\fi				
734		\else % onecolumn				
735		\ifoddpage				
736		\setBottomCaption\setPageObject				
737		\else				

738	\afterpage{\setBottomCaption\setPageObject}%
739	\fi
740	\fi
741	\fi
742	\or% caption on the inner column 4->inner
743	\set@caption@object
744	\if@twocolumn
745	\ifoddpage
746	\if@firstcolumn%
747	\setBottomCaption\setPageObject
748	\ else % right column on right side
749	\setPageObject\setBottomCaption% start next firstcolumn next page
750	\fi
751	\else
752	\if@firstcolumn%
753	\afterpage{\afterpage{\setBottomCaption\setPageObject}}% start next page/first column
754	\ else % left page/column
755	<pre>\setBottomCaption\setPageObject% start on same page/column</pre>
756	\fi
757	\fi
758	\else % onecolumn
759	\setBottomCaption\setPageObject
760	\fi \or% caption on the outer column 5->outer
761	
762	\set@caption@object \if@twocolumn
763	\ifoddpage
764 765	\if@firstcolumn
766	\afterpage{\afterpage{\setBottomCaption\setPageObject}}%
767	\else
768	<pre>\afterpage{\setBottomCaption\setPageObject}%</pre>
769	\fi
770	\ else % even page (left)
771	\if@firstcolumn
772	\setBottomCaption\setPageObject
773	\else
774	
775	\fi
776	\fi
777	\else% onecolumn
778	\setBottomCaption\setPageObject
779	\fi
780	\or% caption after object on same page 6->right for twocolumn
781	\if@twocolumn
782	\if@firstcolumn
783	\afterpage{\setPageObject\setBottomCaption}%
784	\else
785	\setPageObject\setBottomCaption
786	\fi
787	\else% always caption _after_ object for onecolumn
788	\setPageObject\setBottomCaption
789	\fi
790	\or% caption before object on same page 7->left for twocolumn

```
\if@twocolumn
791
           \if@firstcolumn
792
793
             \setBottomCaption\setPageObject
794
           \else
             \afterpage{\setBottomCaption\setPageObject}
795
           ∖fi
796
         \else%
                        onecolumn -> same as before
797
           \setBottomCaption\setPageObject
798
         \fi
799
       \fi
800
       \endgroup% startet at main \hvFloat
801
     }%
802
     %
803
     \def\setBottomCaption{%
804
805
       \begin{\hv@floatType}[!b]
       \ifhv@separatorLine\drawSepLine\fi
806
807
       \par
       \usebox\hvCaptionBox
808
       \end{\hv@floatType}%
809
    }
810
811
     \def\setPageObject{%
812
813
       \ifhv@star
814
         \begin{\hv@floatType*}[p]%
815
       \else
         \begin{\hv@floatType}[p]%
816
       \fi
817
       \ifhv@FULLPAGE
818
         \vspace*{\the\dimexpr-lin-\voffset-\topmargin-\headheight-\headsep}%-0.5\baselineskip}%
819
         \checkoddpage
820
         \if@twoside
821
           \ifoddpage
822
823
             \hspace*{\the\dimexpr-\oddsidemargin-\parindent-lin}%
824
           \else
825
             \hspace*{\the\dimexpr-\evensidemargin-\parindent-lin}%
           ∖fi
826
         \else
827
           \hspace*{\the\dimexpr-\oddsidemargin-\parindent-lin}%
828
         ∖fi
829
         %\put(0,0){
830
         \AtBeginShipoutNext{\thispagestyle{empty}}%
831
         \usebox\hvObjectBox%}%
832
       \else
833
         \usebox\hv0bjectBox
834
835
       ∖fi
836
       \ifhv@star
837
         \end{\hv@floatType*}%
838
       \else
         \end{\hv@floatType}%
839
840
       \fi
841
     }
842
     \ExplSyntaxOn
843
```

```
844
     \def\getMultiCaptionAndLabel{%
845
       \global\sbox\hvCaptionBox{\minipage[b]{\linewidth}%
846
847
         \setlength\belowcaptionskip{5pt}%
848
         \setlength\abovecaptionskip{0pt}%
         \hv@cntb=\clist_count:N\l_clist_Type
849
         \advance\hv@cntb by \@ne
850
         \hv@cnta=1
851
         \loop
852
           \edef\@captype{\clist_item:Nn\l_clist_Type{\hv@cnta}}%
853
           \edef\@tempa{\clist_item:Nn\l_clist_LofCaption{\hv@cnta}}%
854
           \ifx\@tempa\@empty
855
             \caption{\clist_item:Nn\l_clist_Caption{\hv@cnta}}%
856
           \else
857
             \expandafter\caption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{\hv@cnta}}%
858
859
           \fi
           \edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cnta}}%
860
           \ifx\@tempa\@empty
861
           \else
862
             \expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cnta}-cap}\fi
863
           \advance\hv@cnta by \@ne
864
         \ifnum\hv@cnta<\hv@cntb
865
         \repeat
866
       \endminipage}%
867
868
    }
     \def\getMultiObjectAndLabel{%
869
       \global\sbox\hv0bjectBox{\minipage{\linewidth}%
870
         \ifx\hvSet@objectPos\hv@Right\raggedleft\else
871
           \ifx\hvSet@objectPos\hv@Left\raggedleft\else
872
             \ifx\hvSet@objectPos\hv@Center\centering
873
         \fi\fi\fi
874
         \hv@cntb=\clist count:N\l clist Type
875
         \advance\hv@cntb by \@ne
876
         \hv@cnta=1
877
878
         \loop
           \def\@temp{\clist_item:Nn\l_clist_Object{\hv@cnta}}%
879
880
           \ifhv@objectFrame\frame{\@temp}\else\@temp\fi
           \label{\label{list_item:Nn\l_clist_Label{\hv@cnta}}\
881
           \ifx\@tempa\@empty
882
           \else
883
             \refstepcounter{\@captype}%
884
             \expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cnta}}%
885
           \fi
886
           \ifnum\hv@cnta<\clist_count:N\l_clist_Type\par\hv@vskip\fi
887
           \advance\hv@cnta by \@ne
888
889
         \ifnum\hv@cnta<\hv@cntb
         \repeat
890
891
       \endminipage}%
892
    }
893
     \def\getMultiSubCaptionAndLabel{%
894
       \global\sbox\hvCaptionBox{\minipage{\linewidth}%
895
         \setlength\belowcaptionskip{5pt}%
896
```

```
\setlength\abovecaptionskip{0pt}%
897
         \xdef\@captype{\clist_item:Nn\l_clist_Type{1}}% the same for all subfloats
898
         \edef\@tempa{\clist_item:Nn\l_clist_LofCaption{1}}%
899
900
         \ifx\@tempa\@empty
           \caption{\clist_item:Nn\l_clist_Caption{1}}%
901
902
         \else
           \expandafter\caption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{1}}%
903
         \fi
904
         \edef\@tempa{\clist item:Nn\l clist Label{1}}%
905
         \ifx\@tempa\@empty\else\expandafter\label\expandafter{\clist_item:Nn\l clist_Label{1}-cap}\fi
906
       \endminipage}%
907
908
    }
909
    \def\getMultiSubObjectAndLabel{%
910
911
       \global\sbox\hvObjectBox{\minipage{\linewidth}%
         \ifx\hvSet@objectPos\hv@Right\raggedleft\else
912
           \ifx\hvSet@objectPos\hv@Left\raggedleft\else
913
             \ifx\hvSet@objectPos\hv@Center\centering
914
         \fi\fi\fi
915
         \hv@cntb=\clist_count:N\l_clist_Caption
916
917
         \advance\hv@cntb by \@ne
918
         \hv@cnta=2
         \xdef\@captype{\clist_item:Nn\l_clist_Type{1}}% the same for all subfloats
919
920
         \loop
           \def\@temp{\clist_item:Nn\l_clist_Object{\hv@cnta}}%
921
922
           \ifhv@objectFrame\frame{\@temp}\else\@temp\fi
923
           \begingroup
           \edef\@tempa{\clist_item:Nn\l_clist_LofCaption{\hv@cnta}}%
924
           \ifx\@tempa\@empty
925
             \subcaption{\clist_item:Nn\l_clist_Caption{\hv@cnta}}%
926
           \else
927
             \expandafter\subcaption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{\hv@cnta}}%
928
           \fi
929
           \edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cnta}}%
930
931
           \ifx\@tempa\@empty
932
           \else
             \expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cnta}}%
933
           \fi
934
           \endgroup
935
           \ifnum\hv@cnta<\clist_count:N\l_clist_Type\par\hv@vskip\fi
936
           \advance\hv@cnta by \@ne
937
         \ifnum\hv@cnta<\hv@cntb
938
         \repeat
939
         \edef\@tempa{\clist_item:Nn\l_clist_Label{1}}%
                                                            the main label at the end
940
         \ifx\@tempa\@empty
941
942
         \else
943
           \refstepcounter{\@captype}
944
           \expandafter\label\expandafter{\@tempa}%
         \fi
945
       \endminipage}%
946
947
    }
    \ExplSyntaxOff
948
949
```

```
\def\getSingleCaptionAndLabel{%
950
       \global\sbox\hvCaptionBox{\minipage{\linewidth}%
951
952
         \setlength\belowcaptionskip{5pt}%
953
         \setlength\abovecaptionskip{0pt}%
954
         \edef\@captype{\hv@floatType}%
         \expandafter\ifx\expandafter\relax\hv@shortCap\relax
955
           \caption{\hv@longCap}%
956
         \else
957
           \caption[\hv@shortCap]{\hv@longCap}%
958
         \fi
959
       \expandafter\ifx\expandafter\relax\hv@label\relax\else\label{\hv@label.cap}\fi
960
       \endminipage}%
961
962
    }
963
     \def\set@caption@object{%
                                    first caption, then object
964
       \ifhv@multiFloat
965
         \getMultiCaptionAndLabel
966
       \else
967
         \ifhv@subFloat
968
           \getMultiSubCaptionAndLabel
969
         \else
970
           \getSingleCaptionAndLabel
971
         ∖fi
972
973
       \fi
       \edef\@captype{hv@p\hv@floatType}%
974
975
       \ifhv@multiFloat
         \getMultiObjectAndLabel
976
       \else
977
         \ifhv@subFloat
978
           \getMultiSubObjectAndLabel
979
         \else
980
           \global\sbox\hv0bjectBox{%
981
982
             \refstepcounter{\@captype}%
983
             \ifhv@objectFrame\frame{\hv@floatObject}\else\hv@floatObject\fi
984
             \expandafter\ifx\expandafter\relax\hv@label\relax
985
             \else
                \expandafter\label\expandafter{\hv@label}%
986
             ∖fi
987
           }%
988
         ∖fi
989
       \fi
990
    }
991
     %
992
     \endinput
993
```